Spectrographic bauxite examination. Mrs. Tivadar Kutsis and Aranka Huber. *Fémipari Kutató Intézet Közleményei* 1956, 141-8.—Bauxite is ground to a mesh of 4900 and melted with KOH until the melt stops bubbling. It is rinsed into a tube with hot distd. water, cooled, HCl is added, and this is boiled until a clear liquid is obtained. A Co-Mo soln. is placed in a calibrated tube and the liquid is added so that 5% Co and 2% Mo is present. The spectrographic analysis is made by the Scheibe-Rivas method from this soln. Felicitas D. Goodyear

S/196/63/000/002/015/026
E194/E155

AUTHORS: Huber, Gyula, and Nemeth, Lajos

TITLE: A multi-core cable of high strength with plastic sheathing

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.2, 1963, 30, abstract 2 B 150. (Hung. pat. cl. 21 c, 20-27, no. 148969, February 28, 1962)

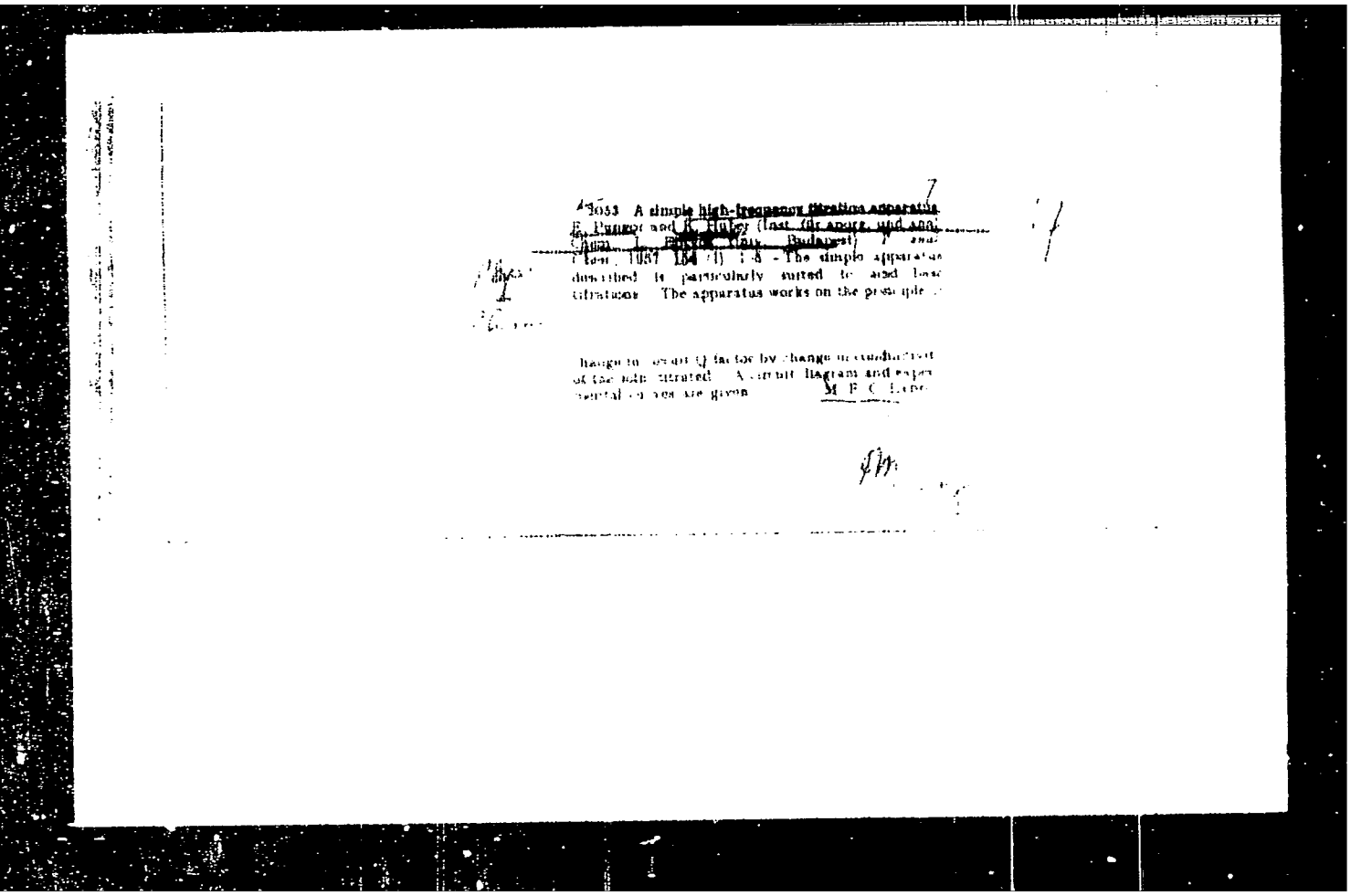
TEXT: (No text given)

Abstracter's note : [illegible]

Card 1/1

SCHWIETER, A.; HUBER, H.; FALVAI, Alfred, dr.

Heat utilization during the drying of leached slices. Cukor 16 no.3:75-81 Mr '63.



3053 A simple high-frequency vibration apparatus
E. Pungor and [illegible] (Inst. for Anorg. and Anal. Chem., Tech. Univ., Budapest) [illegible] and Lab. Rept., 1957, 184, 41). 1 fig. 8 - The simple apparatus described is particularly suited to and [illegible] titrations. The apparatus works on the principle [illegible]

[illegible] change in [illegible] factor by change in conductivity of the solution titrated. A circuit diagram and experimental [illegible] are given. M. F. C. Lepr.

HUBER, Lajos

Socialist transformation of agriculture and the trade-union movement. Munka 8 no.7:5-6 Jl '58.

1. Kozalkalmazottak Szakszervezete fotitkara.

HUNGARY

HUBER, Laszlo, Dr, SZILAGYI, Laszlo, Dr; Janos Hospital-Ambulatory Service (director: TAKO, Jozsef, Dr), Surgical Ward (chief physician: GERGELY, Rezso, Dr) and Central Laboratory (chief physician: HAMMER, Sarolta, Dr) (Janos Korhaz-Rendelointezet, Sebeszeti Osztaly es Kozponti Laboratorium), Budapest.

"Acute Intermittent Porphyria."

Budapest, Magyar Sebeszet, Vol XIX, No 2, Apr 66, pages 121-123.

Abstract: [Authors' German summary] On the basis of a few cases reported, attention is called to the surgical aspects of acute intermittent porphyria. It is recommended that, in cases of non-specific abdominal complaints, the "inverse aldehyde reaction" be carried out among the routine urine tests; it is simple and easy to carry out, and may clarify the diagnosis. As seen in one presented case, the finding of an increased amount of porphyrine does not, of course, exclude the possibility of the concurrent presence of an acute surgical illness. 7 Hungarian, 11 Western references.

HUBER, Lajos

Some questions relating to the village trade union work.
Munka 9 no.3:14-15 Mr '59.

1. Kozalkalmazottak Szakszervezetenek fotitkara.

HUBER, Lajos

Labor movement in government offices. Munka 10 no.9:6-7 S '60.

1. Kozalkalmazottak Szakszervezete fotitkara.

HUNGARY

HUBER, Laszlo, Dr; Capital City Janos Hospital, Surgical Ward (Fovarosi Janos Korhaz, Sebeszeti Osztaly), Budapest.

"Primary Carcinoma of the Appendix."

Budapest, Orvosi Hetilap, Vol 104, No 43, 27 Oct 63, pages 2048-2049.

Abstract: [Author's Hungarian summary] A case of appendix carcinoma is described by the author which was removed surgically after a diagnosis of acute appendicitis. The case is the second primary carcinoma of the appendix reported in Hungary. 2 Hungarian, 8 Western references.

1/1

SOMI-KOVACS, Tibor, dr.; Statisztikai munkatars: HUBER, [redacted]

Evaluation of the mobile x-ray mass screening in 1961 and some problems of its further development. Tuberkulozis 16 no.10: 304-307 O '63.

(TUBERCULOSIS, PULMONARY) (MASS CHEST X-RAY) (STATISTICS)

SOMI-KOVACS, Tibor, dr.; statisztikai munkatars: HUBER, Marta

Analysis of the results of mass radiography in the years 1959-60. Tuberkulozis no.8:228-231 Ag '62.

1. Az Orszagos Koranyi Tbc Intezet (igazgato-foorvos: Boszormenyi Miklos dr. kandidatus; tudomanyos igazgato: Foldes Istvan dr. kandidatus) kozlemenye.

(MASS CHEST X RAY)

HUBER, R.; IGLAUER, E.

Considerations on new techniques of irradiation of deep tumors.
Cesk.rentg. 13 no.6:400-406 D '59.

1. Onkologicka klinika ustavu pro lekarskou biologii Nemecke akademie ved. prednosta prof.dr. H. Gummel, Berlin-Buch, NDR.
(NEOPLASMS radiother.)

HUBER, Robert, dr.; SAMUEL, Andras, dr.

Data on the pathomechanism of dangerous ovarian hemorrhage in non-pregnant women. Orv. hetil. 102 no.50:2378-2379 10 D '61.

1. Fovarosi Bajcsy-Zsilinszky Korhaz, "Paula" Szuleszeti Osztaly.

(OVARIES dis) (HEMORRHAGE)

SELMECI, Erno, dr.; HUBER, Robert, dr.

Data on the conservative surgery of extrauterine pregnancy. Orv. hetil. 103 no.44:2092-2094 4 N '62.

1. Bajcsy-Zsilinszky Korhaz, "Paula" Szuleszet-nogyogyaszat.
(PREGNANCY, ECTOPIC)

HUBER, Rudolf, inz. (Ostrava I, Mlynska 11); DOLEZAL, Richard, inz., dr. (Ostrava)

Removing sediments from the water in steam boilers.
Energetika Cz 12 no.10:558 O '62.

DOWZENKO, Anatol; HUBER, Zdzislaw

Epileptic seizures in children. Neurol.neurochir. pshychiat. pol.13 no.6:761-767 N-D'63

HUBER, Zdzislaw; ROGUSKA, Jadwiga; HASIK, Jan; MARCINKOWSKA, Barbara

Electroencephalographic changes in patients operated on for tumors of the brain. Neur. &c polska 10 no.2:231-235 Mr-Ap '60.

1. Z Kliniki Neurochirurgii A.M. w Poznaniu Kierownik: Z. prof. dr med. H.Powiertowski i z Kliniki Chorob Wewnetrznych A.M. w Poznaniu Kierownik: prof. dr med. J.Roguski.
(BRAIN NEOPLASMS surg)
(ELECTROENCEPHALOGRAPHY)

DOWZENKO, Anatol; HUBER, Zdzislaw

The problem of genetics in epilepsy. Neur.&c.polska 10 no.5: 639-646 '60.

1. Z Kliniki Neurologicznej A.M. w Poznaniu, Kierownik: prof.dr A. Dowzenko i z Kliniki Neurochirurgii A.M. w Poznaniu, Kierownik: prof.dr H.Powertowski.
(EPILEPSY genetics)

POWIERTOWSKI, Hieronim; HUBER, Zdzislaw

Tests in patients with brain damages. I. Results of Kohs' test and EEG studies in patients with epilepsy. Rozpr.wydz.nauk med. 6 no.2: 243-252 '61.

1. Zespol prac z Kliniki Neurchirurgii AM w Poznaniu Kierownik: zast. prof. dr H. Powiertowski.

(EPILEPSY diag) (PSYCHOLOGICAL TESTS)
(ELECTROENCEPHALOGRAPHY)

HUBER, Zdzislaw; NOWICK, Halina

Tests in patients with brain damages. III. Comparison of the degree of intellectual efficiency measured by Wechsler's method with results of electroencephalographic examinations in 50 epileptic patients. Rozpr.wydz.nauk med. 6 no.2:265-271 '61.

1. Zespol prac z Kliniki Neurochirurgii AM w Poznaniu Kierownik: zast. prof. dr H. Powiertowski.

(EPILEPSY diag) (INTELLIGENCE TESTS)
(ELECTROENCEPHALOGRAPHY)

HUBER, Z.

Scientific conference on judicial decisions based on medical opinions in epilepsy. Neurol neurochir psych 12 no.5:795-796 S-O '62.

HUBER, Zdzislaw; ROGUSKO, Jadwiga; HASIK, Jan

Results of electroencephalographic studies on patients with chronic circulatory insufficiency. Pol. arch. med. wewn. 32 no.9:1077-1080 '62.

1. Z Kliniki Neurochirurgii AM w Poznaniu Kierownik: Z-ca prof. dr med. H. Powiertowski i z II Kliniki Chorob Wewnetrznych AM w Poznaniu Kierownik: prof. dr med. J. Roguski.
(ELECTROENCEPHALOGRAPHY) (HEART FAILURE CONGESTIVE)

STRZYZEWSKI, W.; KALWARYJSKA, H.; HUBER, Z.; LORKIEWICZ, Z.

The status of the central nervous system before and after open heart surgery in children. Kardiol. Pol. 7 no.2:141-144 '64.

1. Z Oddzialu Chirurgii Torakalnej (Ordynator: prof. dr J. Moll); z Oddzialu Neurologicznego Szpitala Miejskiego im. J. Strusia (Ordynator: dr T. Frackowiak) oraz z Kliniki Neurochirugii Akademii Medycznej w Poznaniu Kierownik: prof. dr H. Powiertowski).

DOWZENKO, A[illegible]; HUBER, Zdzislaw

Temporal lobe epilepsy - etiopathogenesis, clinical pathophysiology and localization problems. Neurol. neurochir. psychiat. Pol. 15 no.3:371-376 My-Je '65.

1. Z Kliniki Neurologicznej Instytutu Psychoneurologicznego (Kierownik: prof. dr. A. Dowzenko) i z Kliniki Neurochirurgii AM w Poznaniu (Kierownik: doc. dr. H. Powiertowski).

WENDER, Mieczysław; HUBER, Zdzisław

An attempt to correlate the pathomorphology of an epileptic focus with the clinical condition of patients with temporal lobe epilepsy. Neurol. neurochir. psychiat. Pol. 15 no.3: 425-431 My-Je '65.

1. Z Kliniki Neurologicznej AM w Poznaniu (Kierownik: doc. dr. med. M. Wender) i z Kliniki Neurochirurgii AM w Poznaniu (Kierownik: doc. dr. med. H. Powiertowski).

HUBER, Zdzislaw; PRUSZEWICZ, Antoni; SZMEJA, Zygmunt; BIALEK, Edmund

Studies on smell, taste, hearing, balance, vision and surface sensation after anterior temporal lobectomy. Neurol. neurochir. psychiat. Pol. 15 no.3:475-480 My-Je '65.

1. Z Kliniki Neurochirurgii AM w Poznaniu (Kierownik: doc. dr. med. H. Powiertowski) i z Kliniki Otolaryngologicznej AM w Poznaniu (Kierownik: prof. dr. med. A. Zakrzewski).

HUBER PANU, I., prof.,dr.,ing.

Current problems in the field of crushing, and progress made.
Rev min 13 no.2:48-61 F '62.

1. Membru corespondent al Academiei R.P.R. si Membru al Comitetului de redactie, "Revista minelor."

ROMANIA 2

HUBER PANU, I.; PANDELESCU, C.; PROTOPOPESCU, A.

1. Corresponding Member of the Academy of the Rumanian People's Republic (for Huber Panu).

Bucharest, Studii si Cercetari de Metalurgie, No 3, 1963, pp 297-330

"Influence of Aeration on the Flotation of Very Finely Ground Ores."

HUBER-PANU, I.

Some equations for flotation kinetics. Rev Roum metallurg 9 no. 1:3-16 '64.

1. Corresponding Member of the Rumanian Academy.

HUBER-PANU, I.; PANDELESCU, C.; PROTOPOPESCU, A.

Studies on the influence of aeration on the flotation of very fine crushed minerals. Rev Roum metallurg 9 no. 1: 17-38 '64.

1. Correspondeing Member of the Rumanian Academy (for Huber-Panu).

L 11178-66 EWP(t)/EWP(b) JD

ACC NR: AP6004955 SOURCE CODE: RU/0027/65/010/001/0089/0103

AUTHOR: Huber-Panu, I. (Corresponding member of Academy RPR)

ORG: none

TITLE: Kinetics of flotation with air released from the solution

SOURCE: Studii si cercetari de metalurgie, v. 10, no. 1, 1965, 89-103

TOPIC TAGS: flotation, solution kinetics

ABSTRACT: The author establishes the equations for the extraction of useful substance and for the speed of flotation as functions of time for the case of flotations with air released from the solution. These equations as well as experimental results lead to the conclusion that the speed of flotation in such cases is larger than for regular flotation, especially in the case of very fine materials. Orig. art. has: 2 figures, 30 formulas, and 3 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 07Dec64 / ORIG REF: 002 / OTH REF: 002
SOV REF: 002

Card 1/1

L 41193-66 EWP(e) WH

ACC NR: AP6018322 (N) SOURCE CODE: PO/0015/66/000/001/0006/0011

AUTHOR: Roj, Wladyslaw; Hubert, Andrzej

ORG: Jelenia Gora Optical Factory (Jeleniogorska Wytwornia Optyczna)

TITLE: A method for controlling the index of refraction of optical glass during founding

SOURCE: Szklo i ceramika, no. 1, 1966, 6-11

TOPIC TAGS: optic glass, glass property, refractive index

ABSTRACT: A detailed description is given of a method for controlling the refractive index of optical glass by measuring this parameter immediately after the glass has been made while it is still saturated with gases and then adding the appropriate ingredeients to correct the glass composition until the refractive indes is properly adjusted. Addition of the corrective components at this stage does not hurt the quality of the glass since the additives are easily melted and dispersed throughout the entire mass. The immersion method is used for measuring the refractive index of arbitrarily shaped specimens. The piece of glass is placed in a mixture of liquids and the composition is varied to balance the refractive index of light passing through the fluid and the glass for a given wavelength. The relative error for this method is less than $\pm 10^{-4}$. The equipment for taking the measurements and the method used for

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ACC NR: AP6018322

adding the corrective components are described in detail. Only 30 minutes are required from the time the sample is taken until the final results are achieved. The proposed method results in an index of refraction which varies by less than $3 \cdot 10^{-4}$ from the predetermined value. Orig. art. has: 9 figures, 1 table.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001

Card 2/2 mlf

HUBERT, C.

Some examples of recently built specialized ships used in sea transportation. Rev transport 9 no. 3:104-106 Mr '62.

BURGHIU, C.

Economic operation of Rumanian maritime vessels in relation to continental European ports.

P. 1 (REVISTA TRANSPORTURILOR) (Bucuresti, Rumania) Vol. 4, no. 12, Dec. 1957

SO: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 5. 1958

Hubert, C.

The use of cargo vessels on regular lines or in tramps. p. 145

REVISTA TRANSPORTURILOR. (Asociatia Stintifica a Inginerilor si Tehnicienilor din Rominia si Ministerul Transporturilor Rutiere, Navale si Aeriene) Bucuresti. Vo. 6, No. 4, Apr., 1959

Monthly list of East European Accessions (EEAI) LC, Vol. 8 No. 8, Aug. 1959

Uncl.

HUBERT, C.

Development of the commercial maritime and fluvial marine in Bulgaria. P 220.

REVISTA TRANSPORTURILOR. (Asociatia Stinitifica a Inginerilor si Technicienilor din Rominia si Ministerul Transporturilor Rutiere, Navale si Aeriene) Bucuresti, Romania. Vol. 6, no. 5, May 1959.

Monthly List of East European Accesions (EEAI) LC. Vol. 8, no. 9, Sept. 1959.

Uncl.

HUBERT, C.

Launching of the Rumanian cargo ships "Victoria" and "Timisoara."
Rev transport 9 no.1:41 Ja '62.

HUBERT, C.

Sea transportation of dangerous goods. Rev transport 9 no.4:177 Ap '62.

HUBERT, C. (Bucuresti)

With Rumanian vessels on the world seas and oceans. Natura Geografie 17 no.2:80-85 Mr-Ap '65.

HUBERT, E.

"Possibilities of Better Use of our Office Machines." p. 34 (TOBBTERMELES. Vol. 8, No. 12, Dec. 1954; Budapest, Hungary.)

So: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 4, April 19 5, Uncl..

AUTHOR.

[redacted], B.; DRAGAN, [redacted] SZABO, L.; HUBAR, -.; IACOB, M.

Bucharest, Studii si Cercetari de Metalurgie, No 4, 1963, pp 375-390

"Contributions to the Study of the Transformation of Austenite in Carbon Steels."

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/ 5 \

HUBERT, H.

Lenino fourteen years later.

p. 3 (Zolnierz Polski, No. 25, Oct. 1957. Warszawa, Poland)

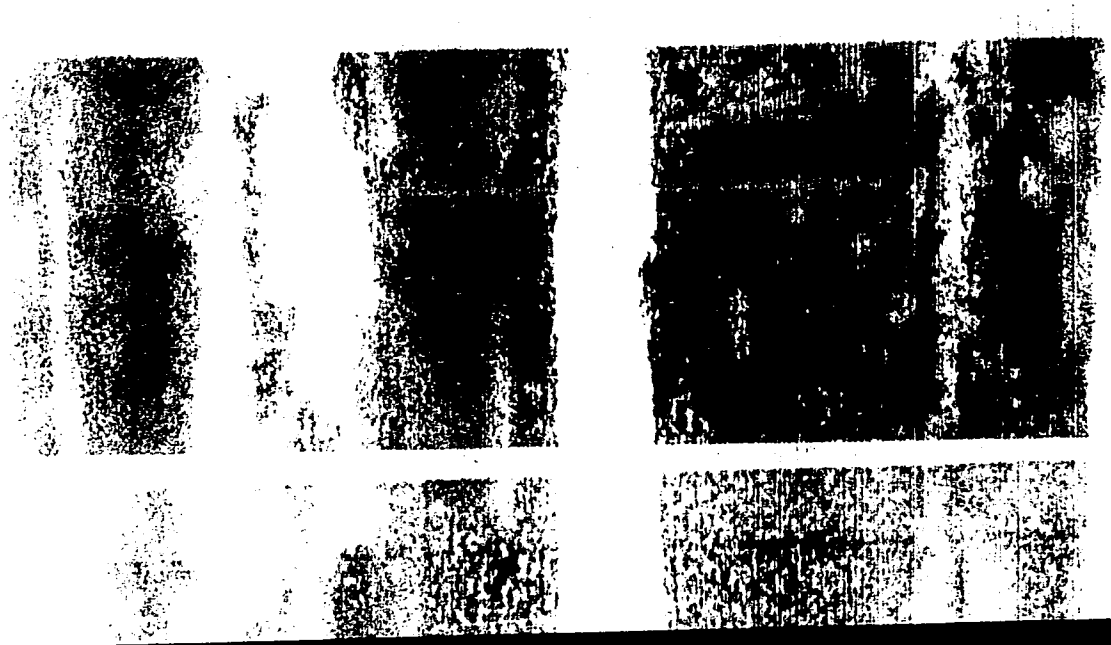
Monthly Index of East European Accessions (EPAI) LC. Vol. 7, no. 2, February 1958

ROTENSTEIN, B.; DRAGAN, N.; STAICU,L.; HUBERT,H.

Influence of boron on the isothermal decomposition of austenite in the 10C10 steels. Studii cerc metalurgie 8 no.2:111-130 '63

ROTENSTEIN, B.; DRAGAN, N.; STAICU, L.; HUBERT, H., IACOB, M.

Contributions to the study on the transformation of undercooled austenite of carbon steels. Rev Roum metallurg 9 no. 1:105-115 '64.



L 33323-66 T/EWP(t)/ETI IJP(c) JD
ACC NR: AP6024627 SOURCE CODE: RU/0017/65/000/006/0318/0321

29
B

AUTHOR: Hubert, H. (Engineer)

ORG: Metallurgical Research Institute (Institutul de cercetari metalurgice)

TITLE: Microsections in electron metallography 10

SOURCE: Metalurgia, no. 6, 1965, 318-321

TOPIC TAGS: metallography, metallurgy

ABSTRACT: The author describes the methods of preparing, examining and interpreting microsections in electron metallography, and calls attention to the advantages of the method. Orig. art. has: 4 figures. [Based on author's Eng. abst.] [JPRS]

SUB CODE: 11 / SUBM DATE: none / SOV REF: 008 / OTH REF: 002

Card 1/1 UDC: 620.187

0915 2261

R/009/62/000/007/001/001
D272/D308

AUTHORS: Cosma, Dante, Baicu, Ştefania, Kundacgian, Ardaş and Hubert, Hilda, Engineers

TITLE: Considerations concerning the production of a ferrite-martensitic refractory steel for gas turbine blades

PERIODICAL: Metalurgia şi construcţia de maşini, 14 no. 7, 1962, 586-593

TEXT: The processing of a Nb-containing ferrito-martensitic refractory steel was studied, in an effort to develop a material suitable for the construction of gas turbine blades operating in the temperature interval 550-650°C, with mechanical properties equal to those of the high Ni-Cr content austenitic steels used for this purpose. The composition of the starting material was: C 0.16, Mn 0.76, Si 0.35, Sr 11.40, V 0.30, Mo 0.60, Nb 0.28, Ni 0.48, N_2 0.060 and O_2 0.0080%. Macroscopic and microscopic faults appear in this steel after the required thermal treatments and these were eliminated by a series of preventive measures. Blow formation was

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Considerations concerning ...

prevented by a considerable reduction of the gas content at the moment of casting; this was accomplished by several complementary actions comprising vigorous boiling of the bath, advanced deoxidation, and lowering of the temperature in certain stages of the process. The strong tendency for trans-crystallization was prevented by increasing the rate of crystallization, by using thin-walled ingot moulds (high temperature gradient) and low casting temperatures (1540 ± 20°C), and by hindering the tendency towards crystal growth by the use of low melting and surface active modifiers (Ca-Si). The formation of parallel linear structures was prevented by climination of the $\alpha(\delta)$ phase through an addition of 1.75 - 2.75% Ni. The results were highly satisfactory, and allowed austenitic steels to be replaced by the cheaper ferrito-martensitic steels for gas turbine blades. There are 10 figures and 4 tables.

ASSOCIATION: Institutul de cercetări metalurgice (Metallurgical Research Institute)

Card 2/2

RUMANIA

ROTENSTEIN, B.; DRAGAN, N.; STACIU, L.; HUBERT, H.

(None)

Bucharest, Studii si Cercetari de Metalurgie, No 2, 1963, pp 111-130

"The Influence of Boron On the Isothermal Decomposition of Austenite In 40C10 Steel."

(4)

HUBERT, H., ing.

Electron microscope in metallurgy. Metalurgia Rum 17 no.2:92-95 F '65.

1. Metallurgic Research Institute.

HUBERT, Irena

Major works of the Institute of Civil Engineering performed in 1963. Inst tech bud biul inf no.17:65-66 '64.

HUBERT, Irena

Scientific research works of the Institute of Civil Engineering in 1961. Inz i bud 19 no.12:487-491 D '62.

L 29477-66

ACC NR: AP6019955 SOURCE CODE: CZ/0079/65/007/003/0241/0242

AUTHOR: Vinar, O. (Prague); Kulhankova, O.; Jirackova, H.; Svestka, J.; Hubert, J.; Hlavackova, M.; Tomanova, M.; Rikovsky, S.; Strnad, M.; Kloubek, A.; Nahunek, K.; Bartova, D.; Svestkova, E.; Zachova, J.; Cerny, M.; Klik, J.; Ledererova, E.; Topiar, A.; Tesarova, O.; Molcan, J.; Horak, J.; Baudis, P.; Sobotkievicova, J.; Chloupkova, K.; Bojanovsky, J.; Kubicek, V.; Hankovasky, M.; Vinarova, M.; Bastecky, J.; Grof, P.; Dvorakova, M.

ORG: Psychiatric Research Institute, Prague

TITLE: Controlled clinical comparison of 6 neuroleptic drugs [This paper was presented at the 7th Annual Psychoparmacological Meeting, Jesenik, 20-23 January 1965

SOURCE: Activitas nervosa superior, v. 7, no. 3, 1965, 241-242

TOPIC TAGS: chlorpromazine, pharmacology, psychoneurotic disorder, nervous system drug

ABSTRACT: Chlorpromazine, prochlorperazine, perphenazine, thioridazine, levomepromazine, and chlorprothixene were investigated. 222 patients in groups of 35-39 were used. The effect of the drug was classified according to disappearance, decrease or no change in the symptoms. No difference in the effect of the drug upon schizophrenia symptoms was found. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 06/ SUBM DATE: none ORIG REF: 002/ OTH REF: 003

Card 1/1

89188
POL/47/60/011/003/001/001
D/221/D304

24,3600
AUTHOR: Hubert, Jerzy

TITLE: The resonant recoilless absorption of gamma rays

PERIODICAL: Postępy fizyki, v. 11, no. 3, 1960, 289-304

TEXT: In the last number of "Postępy fizyki" [Abstractor's note: Issue number is not given], there appeared an article by Professor J. Weyssenhoff on the possibilities of confirming the conclusions of the general theory of relativity by laboratory experiments. This article was the first in Polish on the effect of recoilless emission and absorption of gamma quanta, discovered in1958. Since interest in this effect -- which was aroused by the letter of October 15, 1959, written by R.V. Pound and G.A. Rebka Jr. (Ref. 5: Phys. Rev. Letters 3, 439, 1959) -- is increasing all the time, the author gives the theory and a survey of results of research based on the application of the Mössbauer

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D/221/D304

The resonant recoilless ...

Effect in physics. He deems it be the more useful, because in all parts of the world the Mössbauer Effect is being applied, e.g. there is now an installation ready in Warsaw to investigate this effect. An apparatus has been designed by Master of Engineering C. Dąbrowski, with a view to repeating initially the classical experiment with Iridium. Also in Cracow, at the 200th Scientific and Technological Colloquium, the article of Professor Weyssenhoff aroused much interest and the installation of the necessary apparatus will probably begin in the near future. The author then outlines the theory of γ-ray absorption and emission prior to the discovery of the Mössbauer Effect as discussed by Kai Siegbahn (Ref. 10: Beta- and gamma- ray spectroscopy, Amsterdam 1959, str. 521). The main problem confronting the scientists then was how to make the spectral recoil lines of light and of γ rays overlap. This used to be achieved by utilizing three methods: 1) By measuring the coincidence rate of γ or β in successive transi-

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The resonant recoilless ...

tions, since any previous decay of β or γ adds an additional velocity component u to the nucleus in the direction of the absorbent, this velocity component increasing the required energy of the γ-quantum by the amount (u/c). E, where E is the energy of the radiated γ-quantum; 2) Moving the source in the direction of the absorbent with velocity v, which also increases the γ-quantum energy by the same amount; 3) By heating the source, producing thus the Doppler-spread of the line until it reaches energy E_o(the energy of the excited level of the nucleus). Mössbauer approached the problem in a totally different way , i.e. by asking whether it would be possible for the γ-quantum to react with the whole of the lattice network and not with one nucleus only. The momentum would be then absorbed by the crystal and E^2/c^2M_k would be practically equal to zero, thus producing the ideal resonance conditions (M_k = the mass of the crystal). Several experiments have proved the possibility of this approach and the author proceeds to outline the theory of the Mössbauer Effect as

Card 3/9

The resonant recoilless ...

given by Harry, J. Lipkin (Ref. 19: Annales of Physics 9, 332 (luty 1960). When considering the emission or absorption of a quantum by a nucleus within a crystal lattice, then a recoilless emission will occur if the γ-quantum is emitted without losing any of its energy to the crystal lattice, i.e. if the energy of the lattice remains unchanged before and after the emission, $E(n_f) = E(n_{in})$, where n_f and n_{in} denote the final and initial states respectively. Since $P(n_{in}, n_f)$ is the probability of transition in which the energy of crystal lattice does not change, the coefficient in the expression for the average energy transferred to the crystal lattice.

$$\sum_{n_f} \{E(n_f) - E(n_{in})\} P(n_f, n_{in}) = \frac{E^2}{2Mc^2} . \qquad (14)$$

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The resonant recoilless...

is equal to zero and Eq. (14) reduces to

$$\sum_{n_f \neq n_{in}}' (E(n_f) - E(n_{in}))\ P(n_f, n_{in}) = \frac{E^2}{2Mc^2} \qquad (14')$$

having $B = \sum_{n_f \neq n_{in}} P(n_f, n_{in})$ and remembering that $\sum_{n_f} P(n_f, n_{in}) = 1$ (7)

Eq. (14') reduces to $P(n_{in}, n_{in}) = 1 - B$ (15)

which shows that the probability of transition without any change in the energy of the crystal lattice is not zero for conditions when Eq. (14) is satisfied by the transitions, whose total probability is less than one. It follows that the probability of recoilless emission is the larger, where the probability of the

Card 5/9

The resonant recoilless ...

transition of the crystal lattice from a low to a higher energy state is larger (as compared with E^2/Mc^2). The Mössbauer Effect should be sought, therefore, among crystals satisfying the following conditions: With nuclei radiating the soft emission, at as low temperature as possible and with atoms bound together as strongly as possible. The results of experiments, based on the Mössbauer Effect are illustrated by the author with two classical examples which clearly show the technique which has been and must be used - that with Iridium 191 as cited by R.L. Mössbauer (Ref. 1: Z. Physik, 151, 124, 1958); (Ref. 2: Naturwissenschaften, 45, 538, 1958; and Z. Naturforschung, 14a, 211, 1959); by Craig, Dash, Mc Guire, Nagle, Reiswig (Ref. 3: Phys. Rev. Letters 3, 221, 1959); by Lee, Meyer-Schutzmeister, Schiffer, Vincent (Ref. 4: Phys. Rev. Letters 3, 223, 1959); and Iron 57 by R.V. Pound, G.A. Rebka Jr. (Ref. 6: Phys. Rev. Letters 3, 554, 1959); by J.P. Schiffer, W. Marshall (Ref. 7: Phys. Rev. Letters 3, 556, 1959); by Hanna, Heberle, Littlejohn, Perlow, Preston, Vincent (Ref. 11:

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The resonant recoilless ...

Phys. Rev. Letters 4, 28, 1960); by De Pasquali, Frauenfelde, Margulies, Peacock (Ref. 12: Phys. Rev. Letters 4, 71, 1960); by Hanna, Hammermesh, Littlejohn, Vincent, Preston, Heberle (Ref. 13: Phys. Rev. Letters 4, 74, 1960). The experiments with Iridium may be divided into three groups: 1) Measurement of absorption as dependent on the thickness of the absorbent; 2) Measurement of absorption as dependent on the temperature of the absorbent; 3) Measurement of the absorption as dependent on the velocity of the source with respect to the absorbent. 1) The experiment is performed at a constant temperature of 4°K. Values obtained for $P(n_{in},n_f)$ and of $P'(n_{in},n_f)$ [where $P'(x)$ is the probability of the absorption of the γ quantum without the emission of phonon], were of the order of 0.07 and 0.047 respectively, which shows that the increase in absorption is of the order of 1 %; 2) The resonance absorption above 300°K is zero. The Debye temperature for Osmium is 300±25°K and for the Iridium 262±32°K, which is in complete agreement with theoretical evaluation from Eq. (14).

Card 7/9

The resonant recoilless ...

3) This method gives directly the width of the investigated line. The results obtained are of the same order of magnitude as those obtained, using the coincidence methods (for line 192 keV $\tau \sim 10^{-10}$ sec.) [Abstractor's note: τ is not defined]. Experiments with Iron: The line width is 10^3 times smaller than the corresponding width of Iridium, and because of the smaller ray energy the probability $P(n_{in},n_f)$ is of the order of 63 %, even at room temperature, which results in an increase in resonant absorption by about 20 % and this absorption becomes sensitive to the relative movement of the source of the order of mm/sec. In conclusion it is stated that hitherto the Mössbauer experiment has been performed using the following elements: ^{119}Sn, ^{190}Ir, ^{193}Ir, ^{182}W, ^{168}Er, ^{153}Eu, ^{57}Fe and experiments with silver 107 or 109 are envisaged. These have the excited level with a mean lifetime 63 and 58 sec., which would correspond to a line with the natural

Card 8/9

The resonant recoilless ...

width of 10^{-17} eV; this opens quite a wide field of investigations into weak (e.g. gravitational) interactions. These possibilities would, however, impose severe conditions of accuracy and stabilization (thermal or seismic) on the installation itself and the measuring devices associated with it. There are 10 figures and 19 non-Soviet-bloc references. The references to the English-language publications read as follows: Harry, J. Lipkin, Annales of Physics, 9, 332, 1960 /Abstractor's note: The reference should read Harry J. Lipkin etc./; Hanna, Hammermesh, Littlejohn, Vincent, Preston, Heberle, Phys. Rev. Letters, 4, 74, 1960; De Pasquali, Frauenfelde, Margulies, Peacock, Phys. Rev. Letters, 4, 71, 1960; Hanna, Heberle, Littlejohn, Perlow, Preston, Vincent, Phys. Rev. Letters, 4, 28, 1960.

ASSOCIATION: Instytut fizyki uniwersytetu Jagiellońskiego Kraków (Institute of Physics of the Jagiellonski University, Cracow).

Card 9/9

STANKIEWICZ, Stefan, mgr (Wroclaw); HUBERT, Jerzy, mgr (Krakow)

Land's experiments and their repercussions. Problemy 20 no. 5:299-300 '64

HUBERT, Jerzy, mgr

Metamorphoses of pink; from the borderland of physics, psychology, and physiology. Problemy 19 no.4:239-247 '63.

*

HUBERT, Miroslav, inz.

Wing boats in passenger transport. Doprava no.8:269-271 '62.

HUBERT, W.

Mechanization of weighing grain. p. 9. GOSPODARKA ZBOZOWA. Vol. 7, No. 4, Apr. 1956. Warszawa.

East European Accessions List (EEAL) Library of Congress Vol. 5, No. 11, August 1956.

HUBIC, R.

CZECHOSLOVAKIA / Virology. Human and Animal Viruses. E
FTL Virus.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 5324.

Author : Bohac, J.; Barok, B.; Dombok, R.; Hubic, R.; Laznicka, F.
Inst : Not given.
Title : Hyperimmune Sera of Cattle and Convalescents' Sera. Tests in Neutralizing Sera to Determine the Quality of Commercial Prophylactic Sera.

Orig Pub: Veterin. med., 1958, 3, No 3, 179-186.

Abstract: No abstract.

Card 1/1

HUBICKA, Emanuel, MUDr.

Progressive epifascial gangrene. Rozhl. chir. 36 no.3:125-130 Mar 57.

1. Chirurgicke oddeleni OUNZ Turnov, prednosta prim. MUDr Antonin Pavlicek. Pamatce krajskeho chirurga prim. MUDr Svatopluka Poura.

(GANGRENE, case report
progr. epifascial after appendectomy (Cz))
(APPENDICITIS, surg.
postop. progr. epifascial gangrene (Cz))

HUBICKA E.

EXCERPTA MEDICA Sec 20 Vol 1/5 Geront. & Geriat. Nov 58

877. *Functional changes of the kidneys in prostatism* Funkcni zmeny ledvin u prostatiku. HUBICKA E. Chir. Odd. OUNZ, Turnov *Rozhl. Chir.* 1957, 36/5 (331–342) Graphs 1 Tables 2

The author investigated, without selection of any kind, 20 patients with prostatic obstruction, and found in all marked disturbances of renal function, both of the glomerular apparatus and the distal nephron. Follow-up studies in 10 patients 3–4 months after prostatectomy showed that these changes persisted or even became worse chiefly in those cases where signs of chronic infection of the urinary tract remained. Since the degree of renal damage increases with age and with duration of urinary stasis, timely surgical intervention is recommended, and the necessity is stressed for adequate therapy of residual pyelonephritis, which in the majority of cases persists for long periods even following freeing of the obstructed urinary tract, and which leads to irreparable renal changes, with the possibility of the development of secondary hypertension.

HUBICKA, E.

Spontaneous rupture of the pathologically changed liver.
Rozhl. chir. 42 no.6:395-397 Je '63.

1. Chirurgicke oddeleni nemocnice v Turnove, vedouci MUDr.
A. Pavlicek.
(LIVER CIRRHOSIS) (HEPATIC VEINS)
(SURGERY, OPERATIVE)

HRUSKA, Vladimir; HUBICKA, Emanuel

Traumatic pneumocephalus. Rozhl. chir. 38 no.6:407-412 June 59

1. Chirurgicke oddeleni KUNZ v Liberci, primar MUDr. V. Draśnar.
Chirurgicke oddeleni OUNZ v Turnove, primar MUDr. A. Pavlicek.
(BRAIN, dis.) (SKULL, fract.)

HUBICKA, Emanuel (MD)

SUBJECT, Given Names

(3)

Country: Czechoslovakia

Academic Degrees:

Affiliation: Department of Surgery (Chirurgicke oddeleni) of the Hospital in Turnov; OUNZ /Okresni ustav narodniho zdravi; Okres Institute of Public Health/, Semily; Director: A. PAVLICEK, MD.

Source: Prague, Prakticky Lekar, Vol 41, No 12, 1961, pp 543-545.

Data: "Appendicitis Herniaria."

Authors: HUBICKA, Emanuel, MD

KRTICKA, Jaroslav, Graduated Physician (promovany lekar)

115

POLAND / Analytical Chemistry. Analysis of Organic Substances E-3

Abs Jour : Ref Zhur - Khim., No 15, 1958, No 50067

Author : Hubicka, Krystyna.
Inst : M. Curie-Sklodowska University.
Title : Amperometric Determination of Ascorbic Acid With $K_3[Fe(CN)_6]$

Orig Pub : Ann. Univ. M. Curie-Sklodowska, 1955, (1957), AA10, 53-42.

Abstract : The amperometric titration of ~ 0.01 N solutions of ascorbic acid was studied. The titration was carried out with 0.05 N solution of $K_3[Fe(CN)_6]$ in a solution buffered with KH_2PO_4-Na_2HPO_4 to pH = 7 using a rotating Pt microelectrode and applying a voltage of 0.2 - 0.3 v. The results of titration are well reproducible. The mean error is plus/minus 2%. If solutions of $K_2Cr_2O_7$ or K_2CrO_4 were used as titrants in a not buffered solution (with the addition of acid, as well as without the addition), the results obtained are not satisfactory. -- T. Lovi.

Card 1/1

HUBICKA, V.

"The labor force in construction."

POZEMNI STAVBY, Praha, Czechoslovakia, Vol. 3, No. 10, October 1955.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959.

Unclassified.

CA

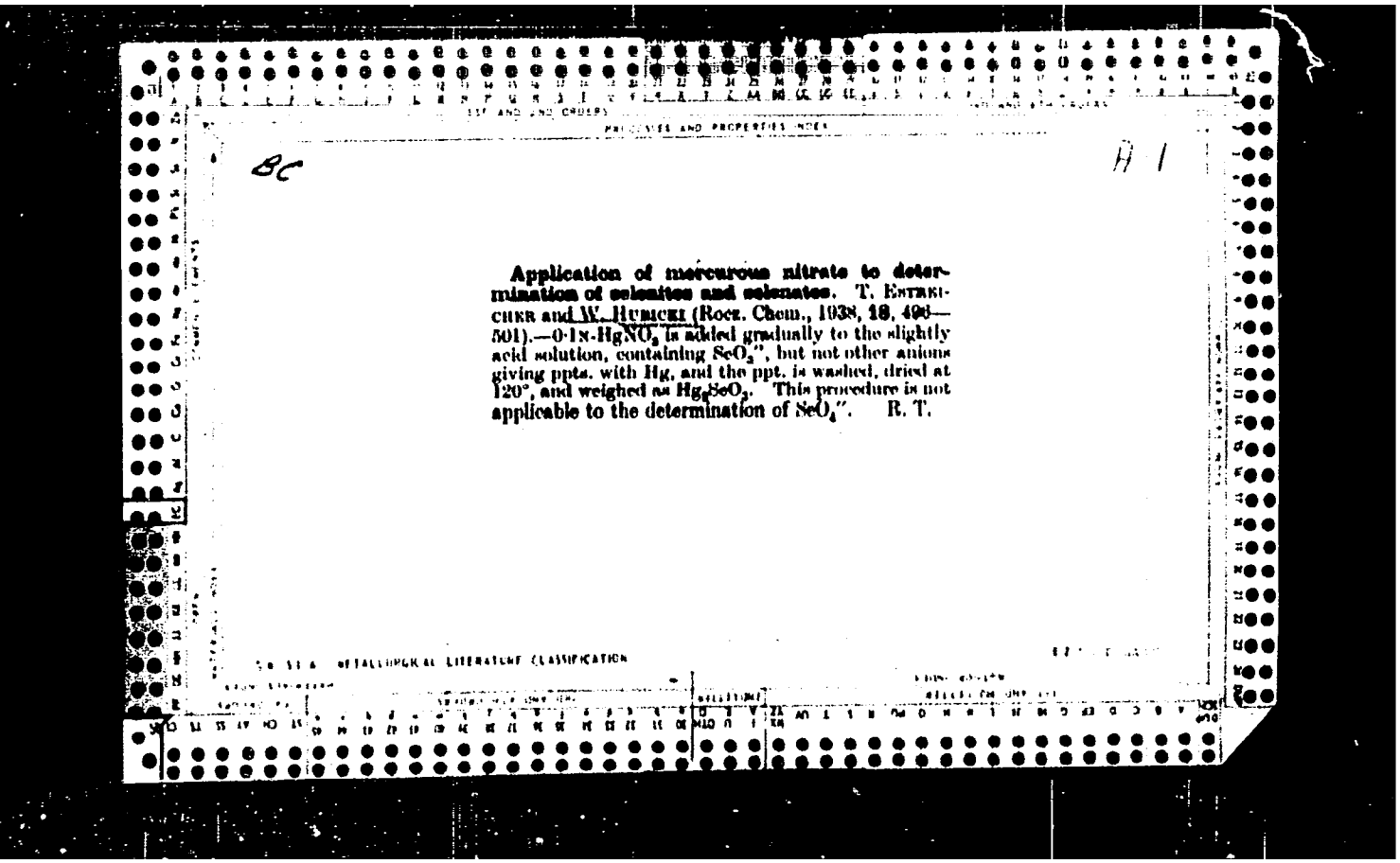
Surface measurement of γ radiations in the geochemical prospecting terrain. Juliusz Hubicki and Zuzanna Wierzbicka. *Nafta (Poland)* **7**, *Suppl. Biul. Gliwickiego Inst. Naftowego* 1, No. 5, 17–19(1951).—In an area previously surveyed by the geochem. method of analyzing soil samples for hydrocarbon content, γ-ray measurements were made with a Geiger-Müller counter 250 mm. long and 25 mm. in diam., lowered into shallow boreholes (2.5 m. deep). A second reading was taken each time with the counter at the surface. Signals from this counter were recorded by a mech. counter actuated from an a.-c. generator operating at 220 v. A correction for background resulting from cosmic radiation was made. A cross section of the structure together with the geochem. and radioactivity curves, and a map showing the radioactivity isoanomalies, are given. The γ-ray intensity curve has a somewhat unsymmetrical form but otherwise resembles the curve of hydrocarbon content which shows the usual peaks on the flanks of the structure and minima over the central portion. It is suggested that the radioactivity values measured are the sum total of the radioactivity of the formations plus the radioactivity of the radioactive compds. accumulated as a result of migration of hydrocarbons from the deposit. B. C. M.

[redacted] węglowych Nafta No. 1, 1952, pp 31 [illegible] 3 figs

This article contains a description of the [illegible] of experimental [illegible] during boring of [illegible] and [illegible] that the [illegible] test results are reproducible. The [illegible] on principles with the variable boring profiles. The coal strata [illegible] ated, in the course of experimental tests, a conspicuous minimum of radioactivity in comparison with sand and loam layers.

HUBICKI, Wlodzimierz

Was alchemy taught in Krakow University in the past?
Kwart hist nauki i tech 9 no. 2: 199-210 '64.



BC

H 1

Application of mercurous nitrate to determination of selenites and selenates. T. ENTRICHER and W. HUBICKI (Roczn. Chem., 1938, **18**, 496—501).—0·1N-$HgNO_3$ is added gradually to the slightly acid solution, containing SeO_3'', but not other anions giving ppts. with Hg, and the ppt. is washed, dried at 120°, and weighed as Hg_2SeO_3. This procedure is not applicable to the determination of SeO_4''. R. T.

P.T.A.

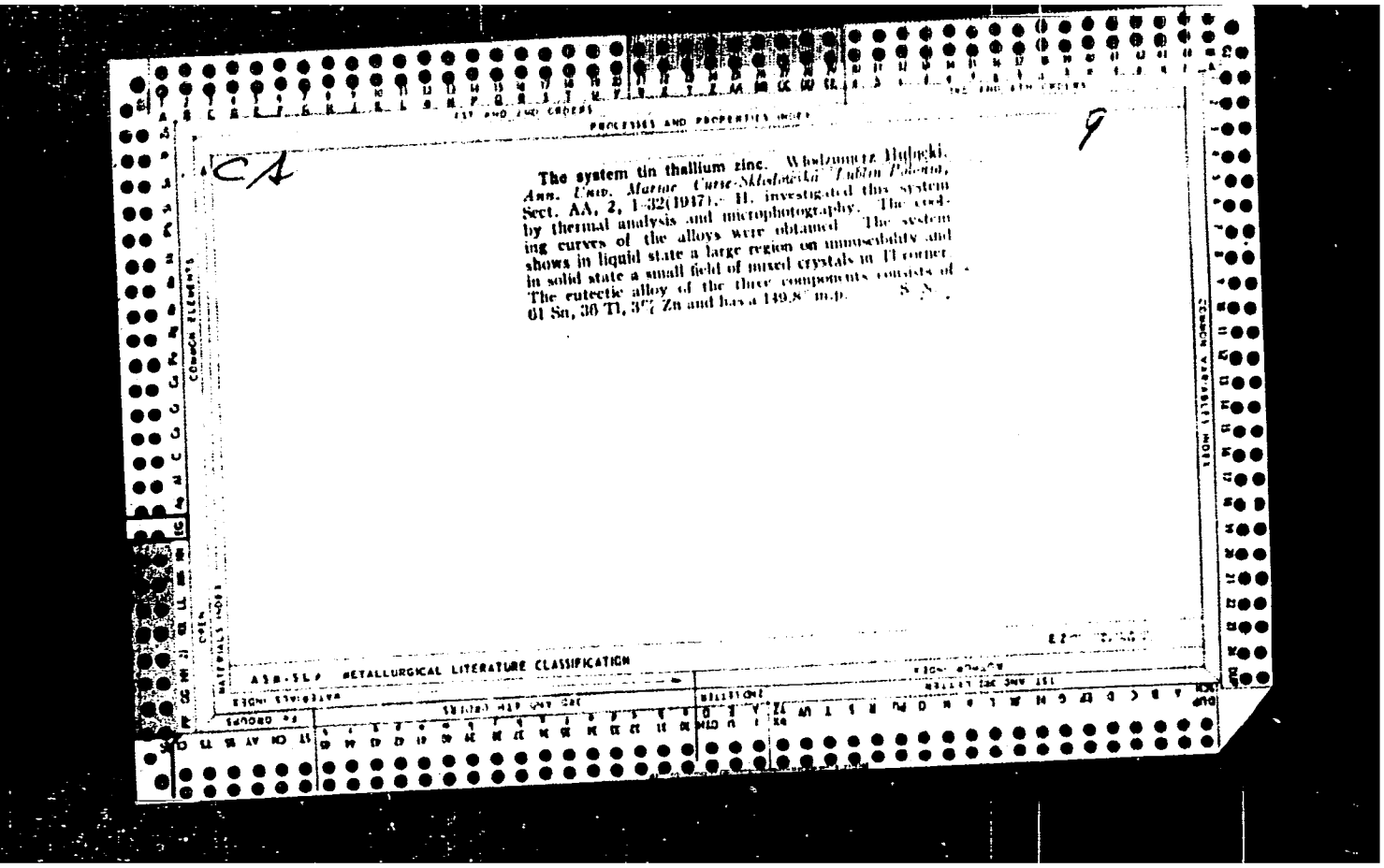
Math. & Natural Sciences

859

Bybicki W. Studies on the Sn-Tl-Zn System. 511.013.2 : 546.47 : 546.311

„Studia nad układem Sn-Tl-Zn". Lublin, 1947, Univ. M. Curie-Sklodowskiej, 8°, pp. 31, 16 figs.

The Sn-Zn system. The Sn-Tl system. The Tl-Zn system. Starting material. Tests. Diagrams of pseudo-dual tests. Range of non-mixability. Mixed crystals. Eutectic point. Microanalysis.

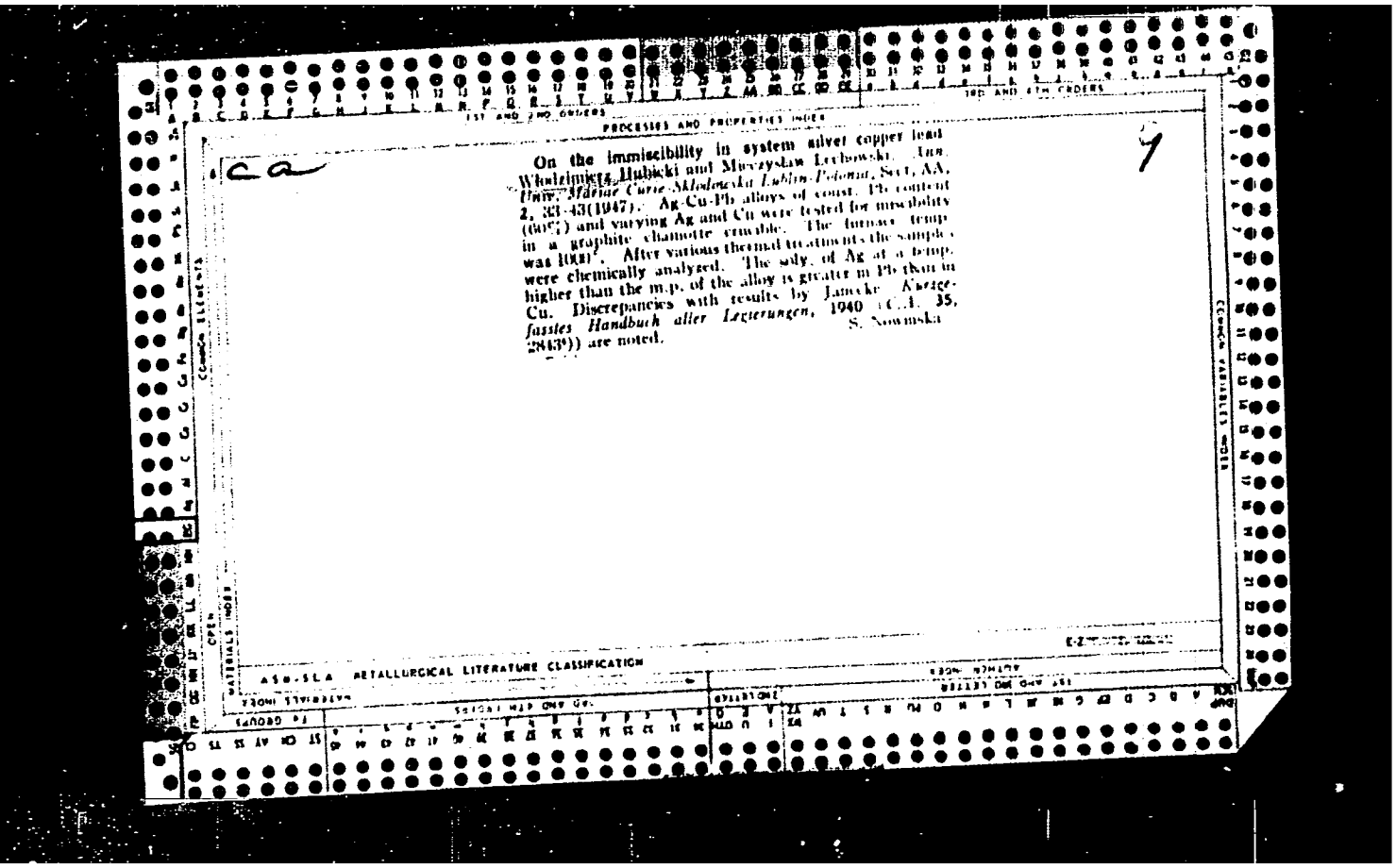


CA

9

The system tin thallium zinc. Włodzimierz Hulęcki. *Ann. Univ. Mariae Curie-Sklodowska Lublin Polonia, Sect. AA*, 2, 1-32(1947).—H. investigated this system by thermal analysis and microphotography. The cooling curves of the alloys were obtained. The system shows in liquid state a large region on immiscibility and in solid state a small field of mixed crystals in Tl corner. The eutectic alloy of the three components consists of 61 Sn, 36 Tl, 3% Zn and has a 149.8° m.p. S. N.

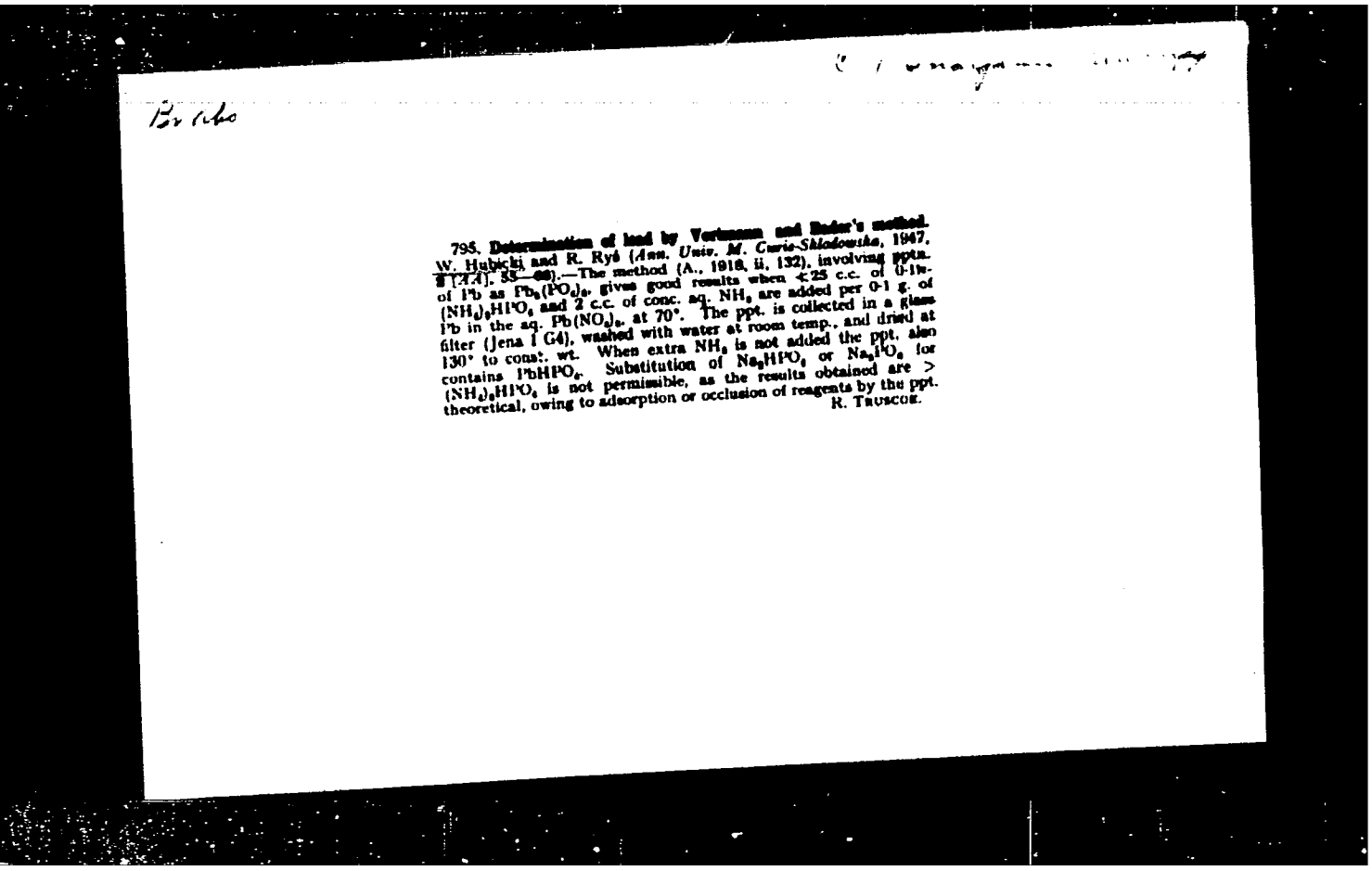
METALLURGICAL LITERATURE CLASSIFICATION



On the immiscibility in system silver copper lead. Włodzimierz Hubicki and Mieczysław Lechowski. Ann. Univ. Mariae Curie-Skłodowska Lublin-Polonia, Sect. AA, 2, 33-43(1947). Ag-Cu-Pb alloys of const. Pb content (60%) and varying Ag and Cu were tested for miscibility in a graphite chamotte crucible. The furnace temp. was 1000°. After various thermal treatments the samples were chemically analyzed. The solv. of Ag at a temp. higher than the m.p. of the alloy is greater in Pb than in Cu. Discrepancies with results by Jaeckle, *Kurzgefasstes Handbuch aller Legierungen*, 1940 (C.A. 35, 2843⁹)) are noted. S. Nowinska

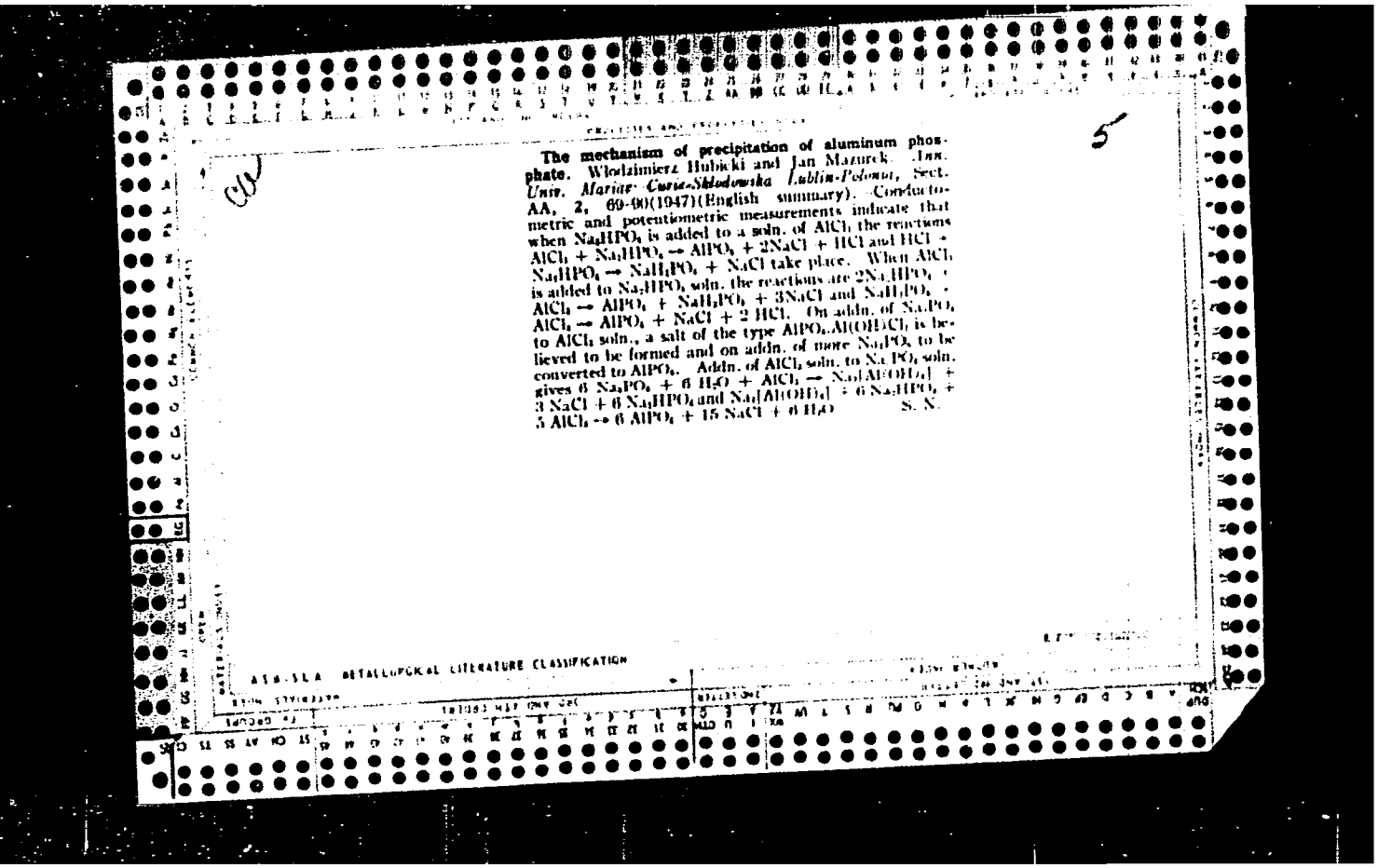
794. Errors in the hydrolytic titration of lead nitrate with di- and tri-sodium phosphate. W. Habicki (*Ann. Univ. M. Curie-Skłodowska*, 1947, **2** [*AA*], 45—53; cf. following abstract).—The ppt. forming on titration of 0·1*N*-$Pb(NO_3)_2$ with 0·1*N*-Na_2HPO_4 is $Pb_3(PO_4)_2$, and not $3PbHPO_4.Na_2HPO_4$, as supposed by Jellinek and Kühn (A., 1924, ii, 693); the excess of Na_2HPO_4 used in the titration is related to formation of NaH_2PO_4, which with further Na_2HPO_4 forms a buffer solution, affecting the indicator end-point. Similarly, in titration with 0·1*N*-Na_3PO_4, the ppt. is $Pb_3(PO_4)_2$, and not $5Pb(PO_4)_2.Na_3PO_4$ (Jellinek and Krestelf, A., 1924, ii, 701), and in this case the excess of Na_3PO_4 used is due probably to its adsorption on $Pb_3(PO_4)_2$. Jellinek's methods are not trustworthy, as the results obtained vary according to the acidity of the $Pb(NO_3)_2$ solution used.

H. Tauson.



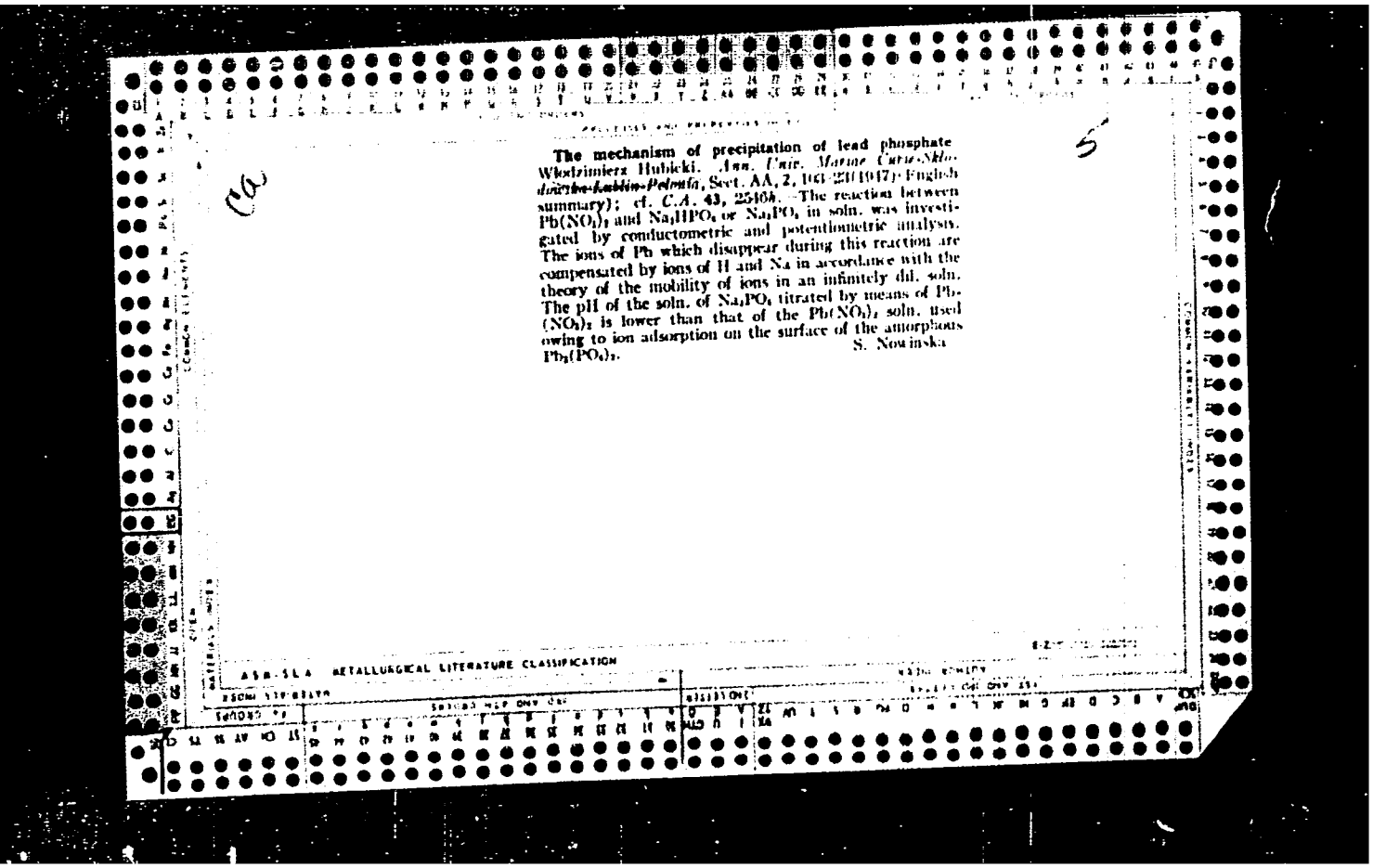
795. **Determination of lead by Vortmann and Ruder's method.** W. Hubicki and R. Ryś (*Ann. Univ. M. Curie-Skłodowska*, 1947, **[2] 2**, 53—60).—The method (A., 1918, ii, 132), involving ppta. of Pb as $Pb_3(PO_4)_2$, gives good results when ≤25 c.c. of 0·1*N*-$(NH_4)_2HPO_4$ and 2 c.c. of conc. aq. NH_3 are added per 0·1 g. of Pb in the aq. $Pb(NO_3)_2$ at 70°. The ppt. is collected in a glass filter (Jena 1 G4), washed with water at room temp., and dried at 130° to const. wt. When extra NH_3 is not added the ppt. also contains $PbHPO_4$. Substitution of Na_2HPO_4 or Na_3PO_4 for $(NH_4)_2HPO_4$ is not permissible, as the results obtained are > theoretical, owing to adsorption or occlusion of reagents by the ppt.

R. Truscott.



The mechanism of precipitation of aluminum phosphate. Włodzimierz Hubicki and Jan Mazurek. *Ann. Univ. Mariae Curie-Skłodowska Lublin-Polonia, Sect. AA*, **2**, 69-90(1947)(English summary). Conductometric and potentiometric measurements indicate that when Na_2HPO_4 is added to a soln. of $AlCl_3$ the reactions $AlCl_3 + Na_2HPO_4 \rightarrow AlPO_4 + 2NaCl + HCl$ and $HCl + Na_2HPO_4 \rightarrow NaH_2PO_4 + NaCl$ take place. When $AlCl_3$ is added to Na_2HPO_4 soln. the reactions are $2Na_2HPO_4 + AlCl_3 \rightarrow AlPO_4 + NaH_2PO_4 + 3NaCl$ and $NaH_2PO_4 + AlCl_3 \rightarrow AlPO_4 + NaCl + 2\,HCl$. On addn. of Na_3PO_4 to $AlCl_3$ soln., a salt of the type $AlPO_4.Al(OH)Cl_2$ is believed to be formed and on addn. of more Na_3PO_4 to be converted to $AlPO_4$. Addn. of $AlCl_3$ soln. to Na_3PO_4 soln. gives $6\,Na_3PO_4 + 6\,H_2O + AlCl_3 \rightarrow Na_3[Al(OH)_6] + 3\,NaCl + 6\,Na_2HPO_4$ and $Na_3[Al(OH)_6] + 6\,Na_2HPO_4 + 5\,AlCl_3 \rightarrow 6\,AlPO_4 + 15\,NaCl + 6\,H_2O$ S. N.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



The mechanism of precipitation of lead phosphate Włodzimierz Hubicki. *Ann. Univ. Marie Curie-Sklodowska Lublin-Polonia*, Sect. AA, 2, 161–231(1947) (English summary); cf. *C.A.* **43**, 2516*h*. The reaction between $Pb(NO_3)_2$ and Na_2HPO_4 or Na_3PO_4 in soln. was investigated by conductometric and potentiometric analysis. The ions of Pb which disappear during this reaction are compensated by ions of H and Na in accordance with the theory of the mobility of ions in an infinitely dil. soln. The pH of the soln. of Na_3PO_4 titrated by means of $Pb(NO_3)_2$ is lower than that of the $Pb(NO_3)_2$ soln. used owing to ion adsorption on the surface of the amorphous $Pb_3(PO_4)_2$.

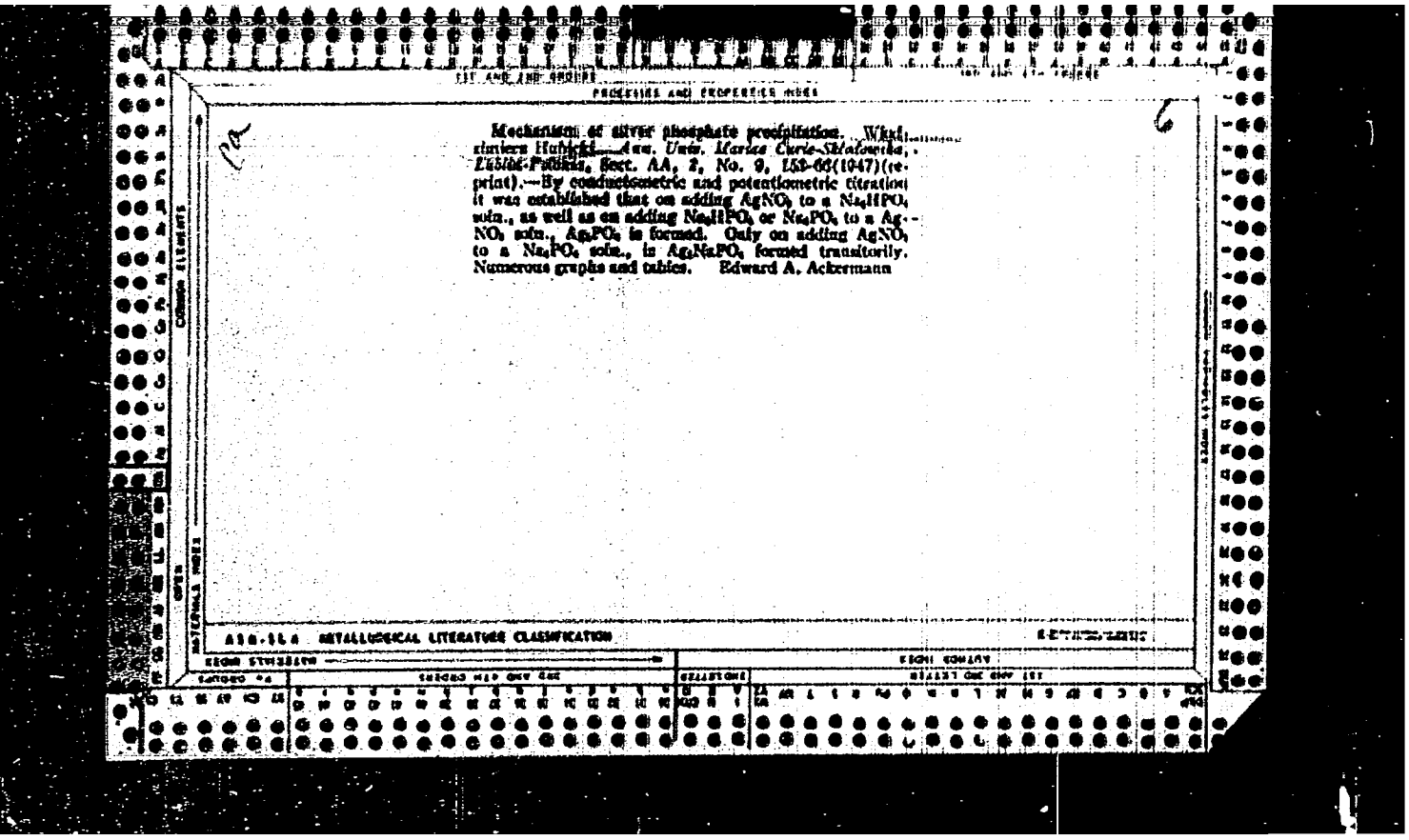
S. Nowinska

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

HUBICKI, W.

8. **Precipitation of silver phosphate.** W. Hubicki, *Ann. Univ. M. Curie-Skłodowska*, 1947, 2, AA, 153—164. Titration of 0·1N-$AgNO_3$ with 0·1N-Na_2HPO_4, or vice versa, involves the reactions: $3AgNO_3 + 2Na_2HPO_4 = Ag_3PO_4 + NaH_2PO_4 + 3NaNO_3$; $3AgNO_3 + NaH_2PO_4 = Ag_3PO_4 + 2HNO_3 + NaNO_3$. Intermediate formation of readily hydrolysed Ag_2NaPO_4 occurs when 0·1N-$AgNO_3$ is added to 0·1N-Na_2PO_4. Ag_3PO_4 strongly adsorbs Ag^+, and the adsorbed Ag^+ binds OH' from the solution. As a result, the end-point of the titrations is displaced in the direction of excess of $AgNO_3$, the potentiometric and conductometric curves do not coincide, and the pH of the solutions is less than expected.

R. Truscon.



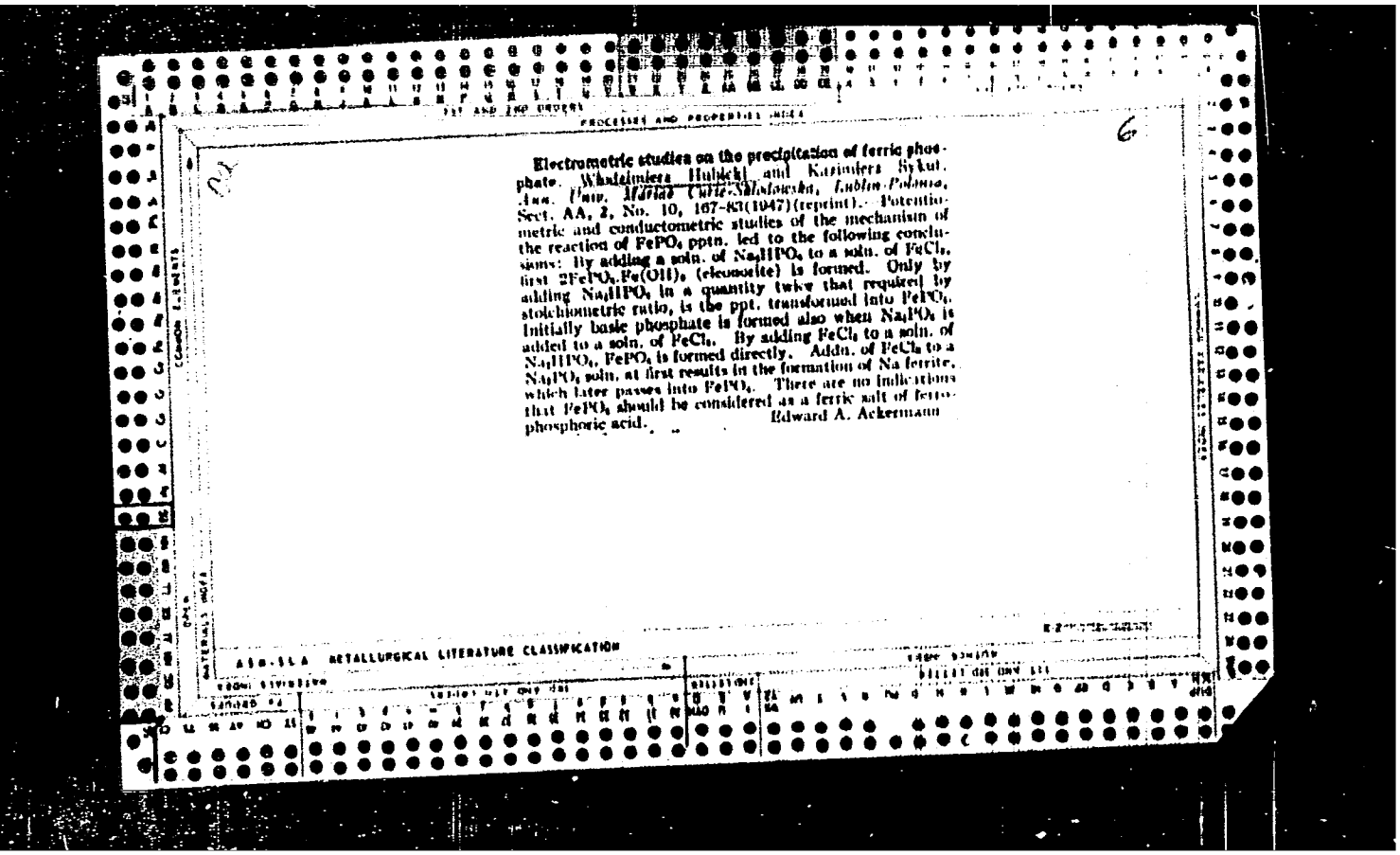
Mechanism of silver phosphate precipitation. Wlad... zimiers Hubicki. *Ann. Univ. Mariae Curie-Sklodowska, Lublin-Polonia, Sect. AA*, 2, No. 9, 153-66(1947)(reprint).—By conductometric and potentiometric titration it was established that on adding $AgNO_3$ to a Na_2HPO_4 soln., as well as on adding Na_2HPO_4 or Na_3PO_4 to a $AgNO_3$ soln., Ag_3PO_4 is formed. Only on adding $AgNO_3$ to a Na_3PO_4 soln., is Ag_2NaPO_4 formed transitorily. Numerous graphs and tables. Edward A. Ackermann

v. Abs.

(1/ Schlapanti, Chem. Abst.

3

53. **Precipitation of ferric phosphate.** W. Hubicki and K. Sykut (*Ann. Univ. M. Curie-Sklodowska*, 1947, **2**, AA, 167—183).—The electrometric and potentiometric curves obtained for titration of 0·1N-$FeCl_3$ with 0·1N-Na_2HPO_4 or Na_3PO_4 suggest that the reactions involved are $3FeCl_3 + 2Na_2HPO_4 + 3H_2O =$
$2FePO_4.Fe(OH)_3 + 4NaCl + 5HCl$;
$2FePO_4.Fe(OH)_3 + 5HCl + 4Na_2HPO_4 =$
$3FePO_4 + 3NaH_2PO_4 + 5NaCl + 3H_2O$;
$3FeCl_3 + Na_3PO_4 + 3H_2O = 2FePO_4.Fe(OH)_3 + 6NaCl + 3HCl$;
$2FePO_4.Fe(OH)_3 + 3HCl + Na_3PO_4 = 3FePO_4 + 3H_2O + 3NaCl$.
Titration of Na_3PO_4 with $FeCl_3$ appears to involve the reactions:
$4Na_3PO_4 + 2H_2O + FeCl_3 = NaFeO_2 + 4Na_2HPO_4 + 3NaCl$;
$4Na_2HPO_4 + NaFeO_2 + 3FeCl_3 = 4FePO_4 + 9NaCl + 2H_2O$.
The $FePO_4$ ppt. in all cases adsorbs PO_4''', Fe''', and OH', with the results that its composition is variable, the end-point is not sharp, and the pH of the solution is less than expected. R. Truscon.



PROCESSES AND PROPERTIES INDEX

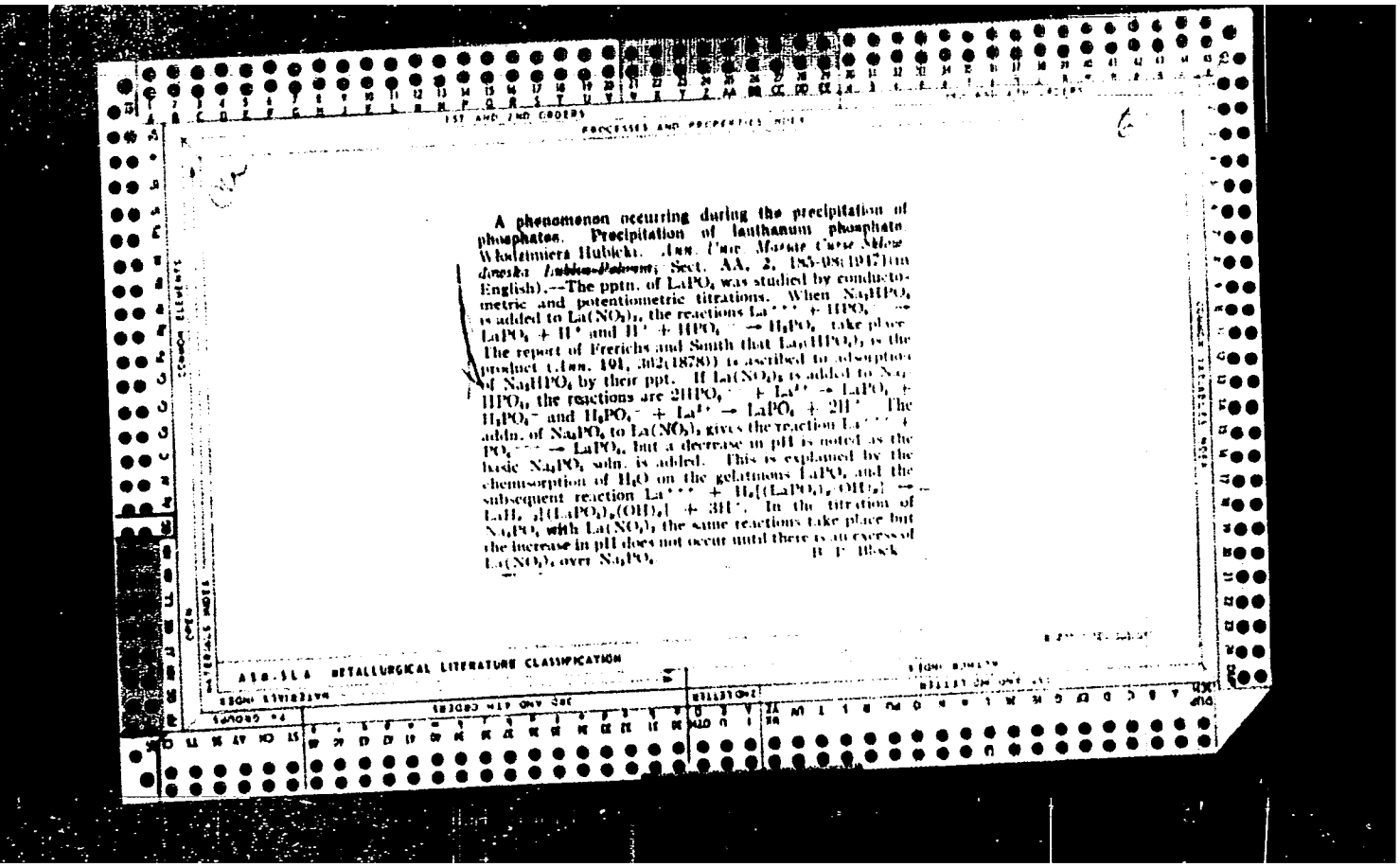
6

Electrometric studies on the precipitation of ferric phosphate. Władysława Hubicki and Kazimiera Sykut. *Ann. Univ. Mariae Curie-Skłodowska, Lublin-Polonia, Sect. AA, 2, No. 10, 167-83(1947)(reprint).* Potentiometric and conductometric studies of the mechanism of the reaction of $FePO_4$ pptn. led to the following conclusions: By adding a soln. of Na_2HPO_4 to a soln. of $FeCl_3$, first $2FePO_4.Fe(OH)_3$ (dicosacite) is formed. Only by adding Na_2HPO_4 in a quantity twice that required by stoichiometric ratio, is the ppt. transformed into $FePO_4$. Initially basic phosphate is formed also when Na_3PO_4 is added to a soln. of $FeCl_3$. By adding $FeCl_3$ to a soln. of Na_2HPO_4, $FePO_4$ is formed directly. Addn. of $FeCl_3$ to a Na_3PO_4 soln. at first results in the formation of Na ferrite, which later passes into $FePO_4$. There are no indications that $FePO_4$ should be considered as a ferric salt of ferrophosphoric acid.

Edward A. Ackermann

A10-51A METALLURGICAL LITERATURE CLASSIFICATION

19. **Phenomenon occurring during precipitation of phosphates. (Precipitation of lanthanum phosphate.)** W. Hubicki (*Ann. Univ. M. Curie-Sklodowska*, 1947, 2, **AA**, 185—193).—The conductometric curve for titration of 0·1N-$La(NO_3)_3$ with 0·1N-Na_2HPO_4 has two inflexions, corresponding with the reactions $La^{...} + HPO_4'' \rightarrow LaPO_4 + H^+$ and $H^+ + HPO_4'' \rightarrow H_2PO_4'$; the potentiometric curve indicates only the latter reaction. The curves do not afford evidence of intermediate formation of $La_2(HPO_4)_3$. The reverse titrations involve only direct pptn. of $LaPO_4$, without any inter-



A phenomenon occurring during the precipitation of phosphates. Precipitation of lanthanum phosphate. Wiktoriera Hubicki. *Ann. Univ. Mariae Curie-Sklodowska, Lublin-Polonia*, Sect. AA, 2, 185-98(1947)(in English).—The pptn. of $LaPO_4$ was studied by conductometric and potentiometric titrations. When Na_2HPO_4 is added to $La(NO_3)_3$, the reactions $La^{+++} + HPO_4^{--} \rightarrow LaPO_4 + H^+$ and $H^+ + HPO_4^{--} \rightarrow H_2PO_4^-$ take place. The report of Frerichs and Smith that $La_2(HPO_4)_3$ is the product (*Ann.* 191, 302(1878)) is ascribed to adsorption of Na_2HPO_4 by their ppt. If $La(NO_3)_3$ is added to Na_2HPO_4, the reactions are $2HPO_4^{--} + La^{+++} \rightarrow LaPO_4 + H_2PO_4^-$ and $H_2PO_4^- + La^{+++} \rightarrow LaPO_4 + 2H^+$. The addn. of Na_3PO_4 to $La(NO_3)_3$ gives the reaction $La^{+++} + PO_4^{---} \rightarrow LaPO_4$, but a decrease in pH is noted as the basic Na_3PO_4 soln. is added. This is explained by the chemisorption of H_2O on the gelatinous $LaPO_4$ and the subsequent reaction $La^{+++} + H_2[(LaPO_4)_3(OH)_2] \rightarrow LaH_3[(LaPO_4)_3(OH)_2] + 3H^+$. In the titration of Na_3PO_4 with $La(NO_3)_3$ the same reactions take place but the increase in pH does not occur until there is an excess of $La(NO_3)_3$ over Na_3PO_4. H. P. Klug

A10-51A METALLURGICAL LITERATURE CLASSIFICATION

H BICKI, W.

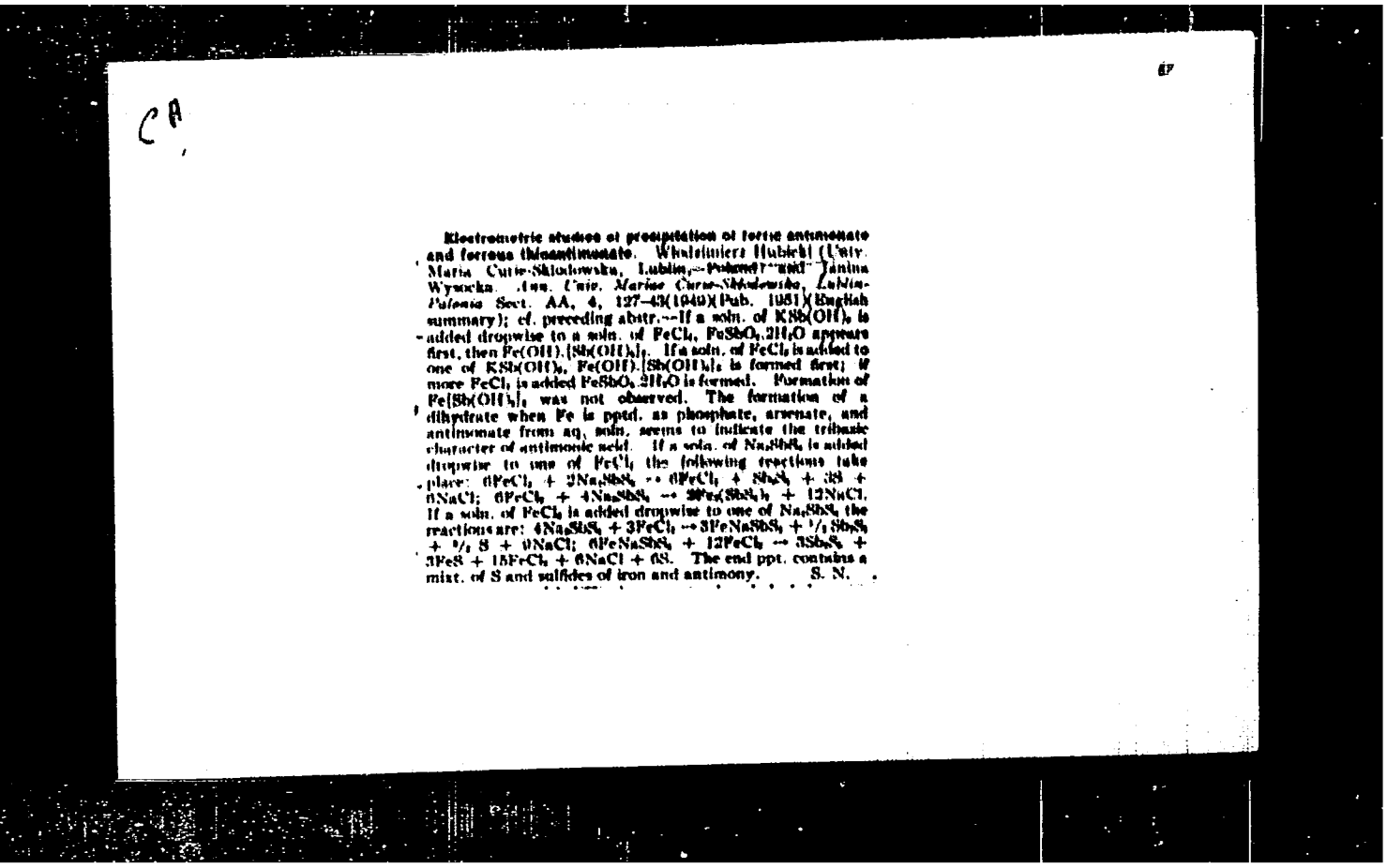
2807. **Structure of the orthophosphate ion, in the light of phenomena observed in precipitation of phosphates.** W. Hubicki (*Ann. Univ. M. Curie-Skłodowska*, 1948, 3, **AA**, 17–62).—The type of potentiometric titration curve obtained in titration of salts of Cr, Be, Ag, Al, La, Pb^{II}, Fe^{III}, Cu^{II}, Cd, Th, Zr, Ce^{III}, Ce^{IV}, Hg^{II}, Zn, Co^{II}, Ni^{II}, Mn^{II}, Mg, Ca, Sr, and Ba salts with 0·1N-Na_3PO_4 or -Na_2HPO_4 depends on a no. of factors, viz., nature of the ppt. (normal or acid salt), secondary reactions taking place after pptn., and sorption of ions by the ppts. The pH at which pptn. of tribasic phosphates takes place is: Mg 9·50, Ba 9·25, Sr 8·45, Ca 7·50, Cr 6·30, Cd 5·92, Ni^{II} 5·75, Zn 5·75, Co^{II} 5·70, Mn^{II} 5·12, Cu^{II} 4·95, Ag 3·92, Be 3·82, Al 3·50, Pb^{II} 3·15; ZrO 3·12, La 2·95, Ce^{III} 2·75, Fe^{III} 2·40, Hg^{II} 2·35, Ce^{IV} 2·30, and Th 2·27. Chemisorption on certain of the ppts. is ascribed to presence in acid solutions of the ion $[P(OH)_6]^{\cdot}$, formed as a co-ordination complex of H_3PO_4 with 2 mols. of water, and able to exchange all of its hydroxyl H ions for cations from the solution, which thereby becomes more acid when alkaline aq. Na_3PO_4 is added.

R. Truscos.

CA

Electrometric studies of precipitation of ferric arsenate. Włodzimierz Hubicki (Univ. Marii Curie-Skłodowska, Lublin, Poland) and Kazimiera Wiacek. *Ann. Univ. Mariae Curie-Skłodowska, Lublin-Polonia* Sect. AA, 4, 111-20(1949)(Pub. 1951)(English summary); cf. *C.A.* 43, 6931*d*.—Potentiometric and conductometric measurements were made during pptns. of ferric arsenate. If a soln. of Na_2HAsO_4 is added dropwise to one of $FeCl_3$, the reaction occurs in two stages: $3FeCl_3 + 2Na_2HAsO_4 + 3H_2O \rightarrow 2FeAsO_4.Fe(OH)_3 + 4NaCl + 5HCl$, and $2FeAsO_4.Fe(OH)_3 + 4Na_2HAsO_4 + 5HCl \rightarrow 3FeAsO_4 + 3NaH_2AsO_4 + 5NaCl + 3H_2O$. If a soln. of Na_3AsO_4 is added dropwise to a soln. of $FeCl_3$, the reactions are: $3FeCl_3 + 2Na_3AsO_4 + 3H_2O \rightarrow 2FeAsO_4.Fe(OH)_3 + 3HCl + 6NaCl$, and $2FeAsO_4.Fe(OH)_3 + 3HCl + Na_3AsO_4 \rightarrow 3FeAsO_4 + 3H_2O + 3NaCl$. If a soln. of $FeCl_3$ is added dropwise to one of Na_2HAsO_4, the reactions are: $2Na_2HAsO_4 + FeCl_3 \rightarrow FeAsO_4 + NaH_2AsO_4 + 2NaCl$, and $3FeCl_3 + 2NaH_2AsO_4 + 3H_2O \rightarrow 2FeAsO_4.Fe(OH)_3 + 2NaCl + 7HCl$. The final ppt. contains normal and basic ferric arsenate. If a soln. of $FeCl_3$ is added dropwise to one of Na_3AsO_4, the reactions are: $8Na_3AsO_4 + 9FeCl_3 + 8H_2O \rightarrow 2Na_2Fe(OH)_3 + 8Na_2HAsO_4 + 6NaCl$, $2NaFe(OH)_3 + 8Na_2HAsO_4 + 5FeCl_3 \rightarrow 5FeAsO_4.2Fe(OH)_3 + 3NaH_2AsO_4 + 15NaCl + 2H_2O$, and $3NaH_2AsO_4 + 4FeCl_3 + 2H_2O \rightarrow 3FeAsO_4.Fe(OH)_3 + 3NaCl + 9HCl$. There is obtained a mixt. of basic and normal arsenates of iron.

Sylvia Nowinska



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Electrometric studies of precipitation of ferric antimonate and ferrous thioantimonate. Włodzimierz Hubicki (Univ. Maria Curie-Skłodowska, Lublin,—[illegible] and Janina Wyrocka. *Ann. Univ. Mariae Curie-Skłodowska, Lublin-Polonia Sect. AA*, 4, 127–43(1949)(Pub. 1951)(English summary); cf. preceding abstr.—If a soln. of $KSb(OH)_6$ is added dropwise to a soln. of $FeCl_3$, $FeSbO_4.2H_2O$ appears first, then $Fe(OH)_2[Sb(OH)_6]_2$. If a soln. of $FeCl_3$ is added to one of $KSb(OH)_6$, $Fe(OH)_2[Sb(OH)_6]$ is formed first; if more $FeCl_3$ is added $FeSbO_4.2H_2O$ is formed. Formation of $Fe[Sb(OH)_6]_3$ was not observed. The formation of a dihydrate when Fe is ppd. as phosphate, arsenate, and antimonate from aq. soln. seems to indicate the tribasic character of antimonic acid. If a soln. of Na_3SbS_4 is added dropwise to one of $FeCl_3$ the following reactions take place: $6FeCl_3 + 2Na_3SbS_4 \rightarrow 6FeCl_2 + Sb_2S_5 + 3S + 6NaCl$; $6FeCl_3 + 4Na_3SbS_4 \rightarrow 2Fe_2(SbS_4)_3 + 12NaCl$. If a soln. of $FeCl_3$ is added dropwise to one of Na_3SbS_4 the reactions are: $4Na_3SbS_4 + 3FeCl_3 \rightarrow 3FeNaSbS_4 + {}^1/_2Sb_2S_3 + {}^3/_2S + 9NaCl$; $6FeNaSbS_4 + 12FeCl_3 \rightarrow 3Sb_2S_5 + 3FeS + 18FeCl_2 + 6NaCl + 6S$. The end ppt. contains a mixt. of S and sulfides of iron and antimony. S. N.

HUBICKI, W.

2448. **Determination of lead as lead hydrogen phosphate.** W. Hubicki, B. Frank, and J. Trau (*Ann. Univ. M. Curie-Skłodowska*, 1950, 5, [*AA*], 53—64).—A new gravimetric method for the quant. determination of lead is described. A solution is prepared which contains 0·1—0·5 g. of Pb, 0·5 ml. of HNO_3 (1 : 1), 100—150 ml. of distilled water, and 4 ml. of H_3PO_4 (sp. gr. 1·25). The solution is heated to the b.p. and a conc. solution of NH_3 is added dropwise, to pH 4. Under these conditions a cryst. ppt. of $PbHPO_4$ is formed. The ppt. is filtered off, washed with distilled water, dried to constant weight at 200°, and weighed. The mean error in seven determinations of samples of pure lead is 0·13%. The use of ethanol for washing the ppt. gives slightly better results.

S. K. Lachowicz.

HUBICKI, W.

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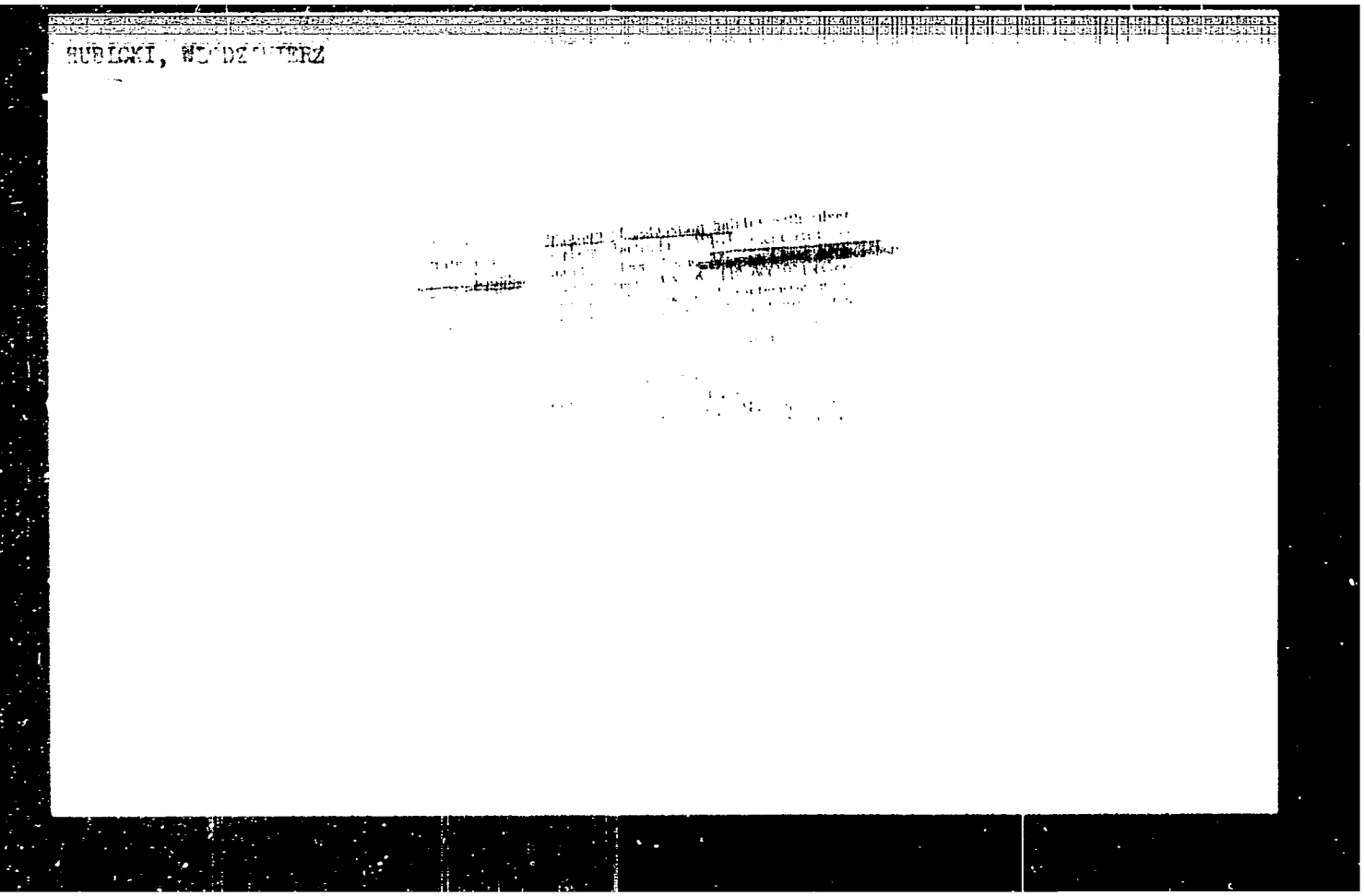
2462. Potentiometric determination of selenious acid by means of mercurous nitrate. W. Hubicki, H. Sikorska, and W. Trzchiewicz (*Ann. Univ. M. Curie-Skłodowska*, 1950, 5, [AA], 73—84).—The selenious acid is determined potentiometrically in a slightly acid medium by titration with $Hg_2(NO_3)_2$. Ag or Pt amalgam electrodes and saturated calomel or saturated Hg' selenite electrodes are used. The rise of potential at the equivalent point amounts to 40—60 mv. The error of the method varies between 0·15 and 0·75%. The presence of nitrate, sulphate, selenate, and chloride ions in the solution does not interfere with the determination. The results of 29 determinations are reported and potentiometric curves are given.

S. K. LACHOWICZ.



HUBICKI, W.

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688. Amperometric determination of selenious acid. W. Hubicki and M. Dalikowska (*Ann. Univ. M. Curie-Skłodowska, AA*, 1951, 6, 161–166).—Amperometric titrations of H_2SeO_3 with $Hg_2(NO_3)_2$ in presence of a large excess of H_2SO_4 or Na_2SO_4 and a rotating platinum micro-electrode are described. Best results are obtained by applying a p.d. of 0·05 to 0·2 V. The error of a single determination varies between 0·8 and 2·2 per cent.
S. K. Lachowicz

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680. Amperometric determination of phosphoric acid with ferric chloride. W. Rubicki (A. Skrzypek and T. Wysocka) (Ann. Univ. M. Curie-Skłodowska, AA, 1951, 6, 169–175).—The small solubility of $FePO_4$ in solutions of pH > 2·4 is made use of in amperometric titrations of PO_4''' with $FeCl_3$ and a rotating platinum micro-electrode. The potential applied is 0·1 to 0·2 V and the error varies between 0·2 and 2·5 per cent. S. K. Lachowicz